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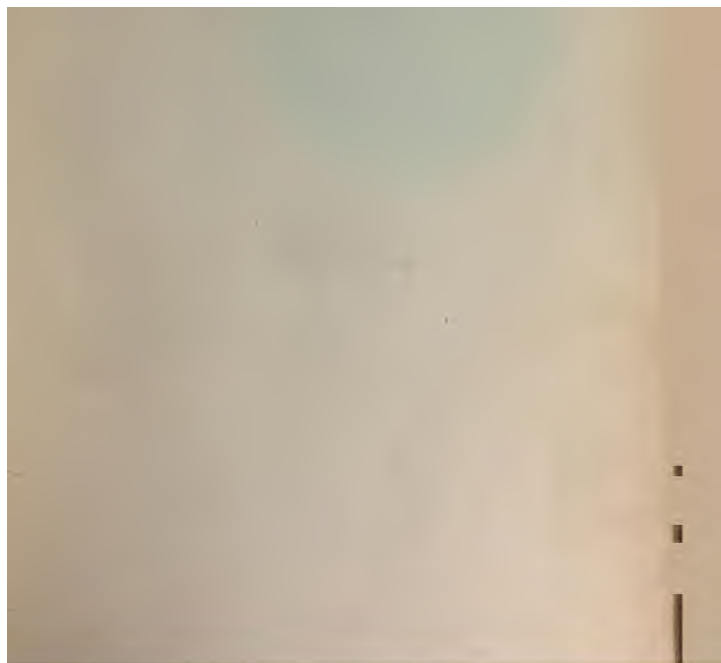


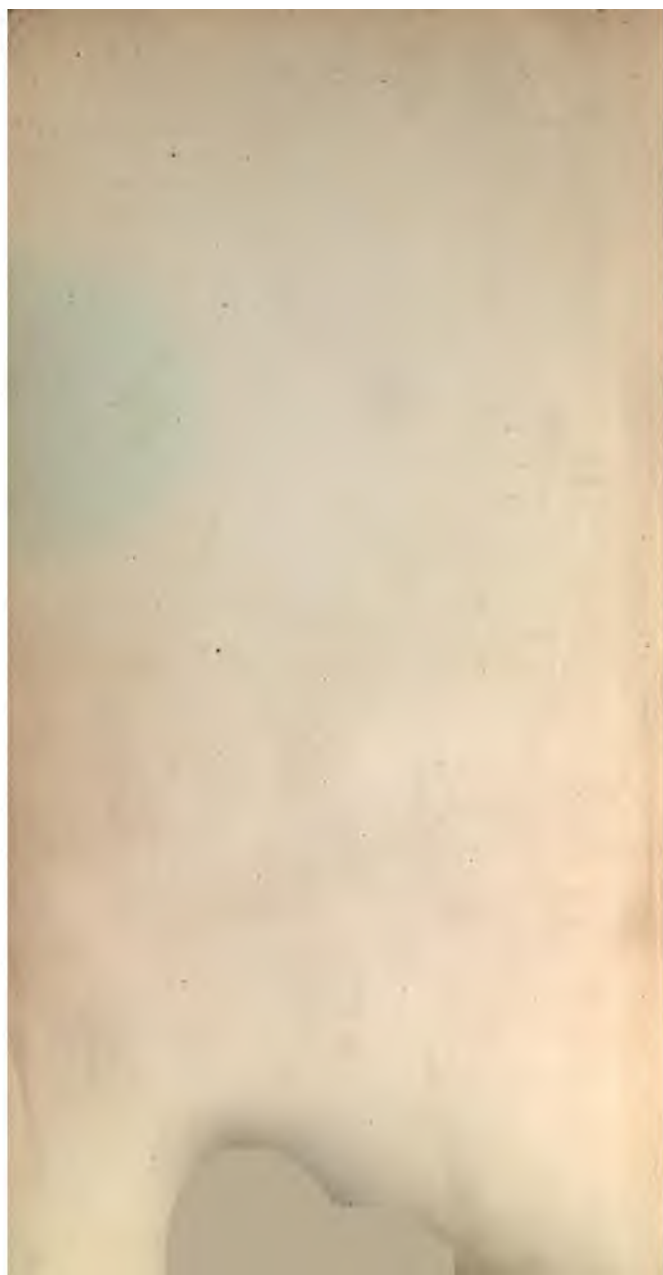












#687
SINGER'S GUIDE AND ESTIMATOR

For General Contractors of Building

Comprising of an easy System of Estimating
Materials and Labor at various Prices
throughout the United States

PRICE \$5.00

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PREFACE

The importance of such a work as *Singer's Guide and Estimator* will be apparent to all making inspection of its contents. While everyone who give its pages a few hours of careful consideration and attention can not fail to appreciate the convenience and usefulness of this book.

From actual experience we know there are many things about the construction of a building which if arranged for concise and ready references and put into book form, would be a valuable aid to architects and contractors in their many branches of the building trades.

The frequent inquiries which we have in the building industries have led us to believe that a book condensed in form giving in an easy practical way general items of interest and value to the various trades concerned is much needed.

In this book it has been the object of the author to point out how mistakes may be avoided in making estimates and to introduce a practical system of making such estimates, thus enabling the contractor and estimators to do work with greater accuracy.

The information in this book has been collected from close observation and actual experience of the author who has spent years in the execution of just that class of work with which the majority of contractors and workmen meet from day to day; thus the information, methods and rules set forth in the book may serve to interest and benefit all who may become the possessor of a copy of this publication.

WILLIAM S. SINGER,

Author

TO MAKE AN ESTIMATE.

Estimating a Building is the most difficult task the Contractor has to deal with.

Second is to manage his work properly after he secures

To make an estimate always requires a careful consideration of Plans, Details and Specifications as well as considerable amount of figuring. Practical experience and personal familiarity with every item that enters into the construction of a Building is what every man needs in order to become a good Estimator. Yet there is no reason why he can not learn or profit from the experience of others.

The easiest, quickest and surest way of estimating is that which is required, such a method can only be acquired by close attention to business. Adopting means and methods which will be a safe guard against mistakes, and by learning to estimate actual quantities and pricing same.

Too much care can not be taken even if the quantities are supplied. Many Contractors in making up their prices in a careless manner, often depending on Catalogues and price list etc., and many times the cost is guessed at. No Estimator can be successful who does not attend strictly to the Actual Cost of Labor and Material by keeping a memorandum of amount of material and the cost of Labor in making it. By so doing you will be able to make an intelligent estimate. Many an honest Contractor has come to grief by taking a Contract too cheap, because of a mistake in his figures, or not allowing enough of material and Labor to do the work, consequently he injures himself and also disorganizes the whole Building Trades in his vicinity. Your Contract is too cheap. In order to save yourself from losses you proceed to purchase inferior material on account of cheapness. Your mechanics are asked to do more than is practical causing poor workmanship. You and the owner are both losers.

(NOTE) The following prices given in this Book are on the basis of Cost (profit to Contractors not included). You will therefore add the total cost of Labor and material. Then add to the total cost a per cent for profits.

You will notice in various places in this book the same cost given in adjoining columns at the same time the cost of wages paid Labor may differ a small amount, this is owing to the fact of omitting all Fractions where possible, making more convenient to figure from and at the same time making a very little difference in the Cost of Work.

ESTIMATORS MEMORANDA.

Inspection of Site	Estimated
The Cost of Labor in the various branches	
Cost of Teaming or hauling material to Site	
Excavation (Note) if Clay, Loam, Sandy Soil etc. Cubic	
Rock Blasting, Curbing Banks or Trenches ..	Special
Earth Hauling, The distance to be hauled....	Cubic Y
Draining Cellar if any, how.....	Special
Pumping water from Cellar, if any, how.....	Sp
Grading Site.....	Cubic
Grubbing out Trees, Stumps, Rock, etc....	Special
Removing Buildings, Debris, Etc.	
Sodding, if any.....	Sq.
Excavating Cistern or Well if any.....	Cubic

FOUNDATION ETC.

Concrete. Proportions in Mixing	Cubic Y
Rubble Stone. Kind of material	Perch or
Dimension Stone. " " " Cubic Foot Perch or	
Cut Stone " " " Lineal or Cubic	
Brick work, Face or Common.....	by the
Mortar, Kind Proportions of Mixing	
Lime.....	Bushel or B
Cement.....	B
Sand	Cubic
Damp Proofing. Slates.....	Sq
Damp Proofing, Asphalt Etc.....	Square
Damp Proofing, Cement Plastering.....	Square
Sub Drains, Tile, Iron Etc.....	Lin.
Sub Drain Fill Crushed Rock, Gravel Etc ...	Cubic
Iron, Steel Cast Etc.....	Ton or Sp
Cement Floors Etc.....	Sq. Foot or
Brick Floors, Paving Etc.	Sq. Foot or
Wood Floors.....	Square or
Lumber.....	1,000 Ft. Board Mea
Mill Work.....	Special P
Plastering	Square
Ornamental Plastering.....	Sp
Lathing, Wood or Metal.....	Sq. Yard or
Flue Linings, Terra Cotta.	Lin
Mortar Coloring.....	Pound or B
Terra Cotta, Ornamental	Sp
Terra Cotta, Fire Proofing.....	Sq. Foot as per D
Metal Work Tin, Galvanized Cooper Etc.....	Special
Slate, Tin and Tile Roofs.....	Square Sp
Painting.....	Sq. Yard Sp
Plumbing, Heating, Gas-piping	Sp
Electric Work.....	Sp
Tile Floors Etc.....	Sq. I
Marble Work	Sq.
Trim Hardware, Locks, Etc.....	Sp
Builders Hardware, Nail, Bolts, Etc.....	Sp
Out-houses, Reuired Tools, Office, Material....	Sp

ses, Permits Etc.....	Special
s, Insurance Etc.....	Special
ental Expenses.....	Special
t to Contractors % on Cost of Work	Special

MEASURE LENGTHS

e are	8 Furlongs in One Mile
e are	320 Rods in One Mile
e are	1760 Yards in One Mile
e are	5280 Feet in One Mile
e are	63360 Inches in One Mile
e are	40 Rods in One Furlong
e are	220 Yards in One Furlong
e are	660 Feet in One Furlong
e are	7920 Inches in One Furlong
e are	5½ Yards in One Rod
e are	16½ Feet in One Rod
e are	198 Inches in One Rod
e are	3 Feet in One Yard
e are	36 Inches in One Yard
e are	12 Inches in One Foot

MEASURES OF SURFACE OR SQUARE MEASURE

e are	640 Sq. Acres in One Sq. Mile
e are	160 Sq. Rods in One Sq. Acre
e are	30½ Sq. Yards in One Sq. Rod
e are	272¼ Sq. Feet in One Sq. Rod
e are	9 Sq. Feet in One Sq. Yard
e are	1296 Sq. Inches in One Sq. Yard
e are	144 Sq. Inches in One Sq. Foot

LAND MEASURE

e are	10 Sq. Chains in One Sq. Acre
e are	100,000 Sq. Links in One Sq. Acre
e are	6,272.640 Sq. Inches in One Sq. Acre
e are	160 Sq. Rods in One Sq. Acre
e are	4840 Sq. Yards in One Sq. Acre
e are	43560 Sq. Feet in One Sq. Acre
e are	640 Sq. Acres in One Sq. Mile
e are	36 Sq. Miles or 6 Miles Square In One Township.

GUNTER'S CHAIN

792 Inches Equals One Link
100 Links Equals One Chain
100 Links Equals Four Rods
100 Links Equals Twenty-two Yards
80 Chains Equal One Mile

ROPES AND CABLES

120 Fathoms Equal One Cable
720 Feet Equal One Cable
8640 Inches Equal One Cable
6 Feet Equal One Fathom
72 Inches Equals One Fathom

CUBIC OR SOLID MEASURE

There are 1728 Inches in One Cubic Foot
There are 27 Cubic Feet in One Cubic Yard
There are 16 Cubic Feet in One Cord Foot
There are 8 Cord Feet in One Cord Wood
There are 128 Cubic Feet in one Cord Wood
There are 2200 Cylindrical Inches in One Cut
There are 3300 Spherical Inches in One Cubic
There are 6600 Conical Inches in One Cubic F
There are $24\frac{3}{4}$ Cubic Feet in One Perch of
There are 25 Cubic Feet for Convenience is ca
Perch of Masonry
There are 100 Cubic Feet of Stone One Cord of
A perch of stone or of masonry is $16\frac{1}{2}$ feet l
feet wide and 1 Foot high.
A pile of wood 8 feet long, 4 feet wide and 4
contains 1 Cord.
And a cord foot is one foot in length of sucl

DRY MEASURE

There are 2 Pints in One Quart
There are 4 Quarts in One Gallon.
There are 2 Gallons in One Peck
There are 4 Pecks in One Bushel
There are 2150.42 Cubic Inches in One Standard
There are 268.8 Cubic Inches in One Gallon dry

MEASURES OF WEIGHTS AVOIRDUPOIS W

There are 16 Drachms in One Ounce
There are 16 Ounces in One Pound
There are 112 Pounds in One Cwt.
There are 20 Cwt. in One Ton
There are 2240 Pounds in One Gross or Standard
There are 2000 Pounds in One Net or short Ton

UNITED STATES WEIGHTS AND MEAS APOTHECARIES WEIGHTS

There are 20 Grains in One Scruple
There are 3 Scruple in One Drachm
There are 8 Drachms in One Ounce
There are 12 Ounces in One Pound

TROY WEIGHT

There are 24 Grains in one Pennyweight
 There are 20 Pennyweight in One Ounce
 There are 12 Ounces in One Pound.

Aliquot Parts of Our Dollar

50 Cents Equals $\frac{1}{2}$ of \$1.
 25 Cents Equals $\frac{1}{4}$ of \$1.
 20 Cents Equals $\frac{1}{5}$ of \$1.
 10 Cents Equals $\frac{1}{10}$ of \$1.
 5 Cents Equals $\frac{1}{20}$ of \$1.
 2 Cents Equals $\frac{1}{50}$ of \$1.
 1 Cent Equals $\frac{1}{100}$ of \$1.

Weight is the measure of gravity and varies according to the quantity of matter a body contains. Three scales of weights are used in the United States, namely, Troy Apothecaries and Avoirdupois.

Troy weight is used in weighing Gold, Silver and Jewels,

Apothecaries weight is used by Apothecaries and Physicians of in compounding dry medicines. But medicines are bought and sold by Avoirdupois weight.

Avoirdupois weight is used for all ordinary purposes

MEASURES OF EXTENSION

Extention has one or more of the Dimensions Length, breadth and thickness.

A line has only one Dimension,—Length.

A surface or area has two dimensions—length and breadth.

A solid or body has three dimensions— length, breadth and thickness.

UNITED STATES WEIGHTS AND MEASURES

SURVEYS, LONG MEASURE

A Gunter's Chain, used by land Surveyors is (4) four rods or (66) Sixty-six feet long, and consists of 100 links.

SQUARE MEASURE

A square is a figure bounded by (4) four equal sides and having (4) four right angles.

Square measure is used in computing areas or surfaces of land, Boards, flooring, plastering, painting, paving, &c.

SURVEYORS SQUARE MEASURE

This measure is used by Surveyors in computing areas or contents of land.

CUBIC MEASURE

A cube is a solid or body having (6) six equal sides or faces. The cubic or solid contents of a body are found by multiplying the length, Breadth and thickness together.

IN COUNTING

- 12 Units or things make One (1) Dozen.
- 12 Dozen or things make one (1) Gross
- 12 Gross or things make one (1) Great Gross.
- 20 Units or things make one (1) Score.

PAPER

- 24 sheets make (1) lone quire.
- 20 quires make (1) one ream.
- 2 reams make (1) one bundle.
- 5 bundles make (1) one bale.

BOOKS

The terms Folio, Quarto, Octavo, Duodecimo &c. indicate the number of leaves into which a sheet of paper is folded.

- A sheet folded in 2 leaves is called a Folio.
- A sheet folded in 4 leaves is called a quarto or 4 to 1
- A sheet folded in 8 leaves is called an octavo or 8 to 1
- A sheet folded in 12 leaves is called a 12 mo.
- A sheet folded in 16 leaves is called a 16 mo.
- A sheet folded in 18 leaves is called an 18 mo.
- A sheet folded in 24 leaves is called a 24 mo.
- A sheet folded in 32 leaves is called a 32 mo.

DRAWING PAPER

- | | |
|--------------------------|--------------------------|
| Cap, 13x16 inches | Columbia 23x33-75 inches |
| Demy 15-5x18-5 inches | Atlas 26x33 inc |
| Medium 18x22 inches | Theorem 28x34 inc |
| Royal 19x24 inches | Dull Elephant 26x40 inc |
| Super Royal 19x27 inches | Antiquarian 31x52 inc |
| Imperial 21-25x29 inches | Emperor 40x60 inc |
| Elephant 22-27 inches | Uncle Sam 48x120 inc |

(TRACING PAPER)

Crown 20x30 inches Grand Royal 18x24 inches
D Crown 30x40 inches Grand Aigle 27x40 inches
D. D. Crown 40x60 inches Vallum Writing 18x28

CONVERSION TABLES OF MEASURES
WEIGHTS ETC.

are	3 Feet in one yard.
are	4 Quarts in one Gallon.
are	9 Square feet in one square yard.
are	12 inches in one foot.
are	16 ounces in one pound.
are	16.5 feet in one rod.
are	24 hours in one day.
are	27 cubic feet in one cubic yard.
are	36 inches in one yard.
are	60 minutes in one hour.
are	112 pounds in one Cwt.
are	144 square inches in one square foot.
are	231 cubic inches in one gallon.
are	640 acres in one mile.
are	1296 square inches in one square yard.
are	1440 minutes in one day.
are	1728 cubic inches in one cubic foot.
are	1760 yards in one mile.
are	5280 feet in one mile.
are	2240 pounds in one ton gross.
are	2000 pounds in one ton net.
are	3600 seconds in one hour.
are	4840 square yards in one acre.
are	43560 square feet in one acre.
are	46656 cubic inches in one cubic yard.
are	63360 inches in one mile.
are	36 square miles or 6 miles square in one Township.
are	365 days in one Common year
are	366 days in one leap year.
are	100 years in one century.
are	8 Furlongs in one mile.
are	2200 Cylindrical inches in one cubic foot.
are	4 pecks in one Bushel.
are	100 square feet in one square 10-0x10-0-100
are	198 inches in one rod.
are	660 feet in one furlong.
are	8 Drachms in one ounce.
are	24 grains in one pennyweight.
are	100 cubic feet in one cord of stone.
are	24¾ cubic feet in one Perch of stone.

ARTICLE No. 47.

SUPERINTENDENT, FOREMAN, TIMEKEEPER AND WATER CARRIERS' WAGES FOR ONE OR MORE

(10 Hours or Less—Basis 125 Cubic Yards)

Wages combined.....	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00
Cost cubic yd. (cts.).....	1 3-5	1 4-5	.02	2 1-5	2 2-5	2 3-5	2 4-5	.03	3 1-5
Wages combined.....	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost cubic yd. (cts.).....	3 2-5	3 3-5	3 4-5	.04	4 1-5	4 2-5	4 3-5	4 4-5	.05
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25	\$8.50
Cost cubic yd. (cts.).....	5 1-5	5 2-5	5 3-5	5 4-5	.06	6 1-5	6 2-5	6 3-5	6 4-5
Wages combined.....	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00	\$10.25	\$10.50	\$10.75
Cost cubic yd. (cts.).....	.07	7 1-5	7 2-5	7 3-5	7 4-5	.08	8 1-5	8 2-5	8 3-5
Wages combined.....	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00
Cost cubic yd. (cts.).....	8 4-5	.09	9 1-5	9 2-5	9 3-5	9 4-5	.10	10 1-5	10 2-5
Wages combined.....	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00	\$15.25
Cost cubic yd. (cts.).....	10 3-5	10 4-5	.11	11 1-5	11 2-5	11 3-5	11 4-5	.12	12 1-5

Continued.

paid for teams is \$5.00 per day of 10 hours. Where the teamsters are members of unions you will find the scale of wages about \$5.00 for 9 hour work, and receive about 8 hours of their actual labor. In some localities you are charged from the time the teams leave the stables and often early in the evening they return to their homes when another load could easily be hauled perhaps the last hour of the days work. You have very few wagons to load, your laborers are charging you for the day, but have nothing to do in the way of loading because of no wagons.

RULES FOR MEASURING EARTH WORK

Earth work is measured cubic generally by the cubic yard of 27 cubic feet, because 27 cubic feet equals 1 cubic yard.

To ascertain the number of cubic yards of excavation take the length and multiply the same by width and by the average height. The result will be the number of cubic feet, which divided by 27 cubic feet will be the amount of cubic yards.

EXAMPLE

Say a cellar is to be excavated 100 feet long by 20 feet width, and 7 feet in depth. Multiply $100 \times 20 \times 7$ equals 14000 Cubic feet. Divided by 27 cubic feet equals 518 cubic yards and 14 feet over.

For all trenches and piers, double measurement. When the earth is left in a cellar to protect adjoining banks or property the same may be charged double the amount.

Increase in the bulk of earth, clay, etc., when excavated and thrown into a loose heap. (One cubic yard of clay in banks or pit will average $1\frac{1}{2}$ cubic yards—when thrown loose in place or fill. Earth work should be measured when practicable before digging.

Shoveling the (loosened earth) into wagons, giving an average number of cubic yards per days work (working and laborers).

A shoveler can readily load sandy soil in 10 hours 18 cubic yards.

A shoveler can readily load sandy soil in 9 hr. 16 cubic yards

A shoveler can readily load sandy soil in 8 hrs. 14 cubic yards.

A shoveler can readily load of loam. in 10 hrs. 16 cubic yards (no picking).

A shoveler can readily load loam soil in 9 hr. 14 cubic yards.

A shoveler can readily load loam in 8 hrs. 12 cubic yards (no picking)..

1 shoveler can readily load heavy soil in 10 hrs. 13 cub yards (no picking).

1 shoveler can readily load heavy soil in 9 hrs. 12½ cub yards (no picking.)

1 shoveler can readily load heavy soil in 8 hrs in 10 cub yards (no picking).

EXCAVATING FROZEN GROUND

It is often necessary to excavate frozen earth, and which conditions the operation is very difficult, which can only be remedied by thawing out the surface which covers the ground where excavation is to begin. Cover with alternate layers of lime and snow. The lime becomes slack and heats the soil so effectually that after 10 or 12 hours, it can be dug up with the greatest ease. Where there is no snow, water can be used.

EARTH WORK

EARTH WEIGHTS PER CUBIC FOOT OR CUBIC YARD

1 cubic foot of common earth weighs about .92 pounds
about 2484 pounds per cubic yard.

1 cubic foot of surface soil weighs about .78 pounds,
about 2100 pounds per cubic yard.

1 cubic foot of clay earth weighs about 1.00 pounds or about
2700 pounds per cubic yard.

1 cubic foot of Sand earth weighs about 1.00 pounds
about 2700 pounds per cubic yard.

1 cubic foot of Sandy earth wet weighs about 1.11 pounds
or about 3000 pounds per cubic yard.

1 cubic foot of sandy loam weighs about .92 pounds or about
2500 pounds per cubic yard.

1 cubic foot of Mud earth weighs about 1.00 pounds or about
2700 pounds per cubic yard.

1 cubic foot of Gravel earth weighs about 1.11 pounds
about 3000 pounds per cubic yard.

(EARTH WORK MEMORANDA)

One cubic yard of earth in original position will measure $1\frac{1}{4}$ to $1\frac{1}{2}$ cubic yards when dug.

One cubic yard of earth equals 27 cubic feet.

One cubic yard of earth is called a load.

A tip or dump wagon will hold when heaped, $1\frac{1}{2}$ to 2 cubic yards.

A large wheel-barrow will hold when heaped 1-10 Cubic yards.

A bushel basket will hold when heaped 1-21 Cubic yards

A shoveler will level or spread at dump or fill 50 to 100 cubic yards per 10 hours.

A plow will, if steadily worked, loosen of earth 200 to 250 cubic yards per 10 hours.

A railroad car will haul earth (as to car capacity) 20 to 30 cubic yards.

A drag scraper in pit or cellar work will draw at (150 feet distance) 35 to 40 cubic yards.

A drag scraper on flat ground will draw at (150 feet distance) 40 to 50 cubic yards.

A wheel scraper in pit or cellar will draw at (150 feet distance) 85 to 90 cubic yards.

A wheel scraper on flat ground will draw at (150 feet distance) 90 to 100 cubic yards.

One square yard of grass bedding or sodding cost when easily had, $12\frac{1}{2}$ to 15 cents per square yard in place.

A team means a pair of horses and their driver.

ARTICLE No. 1.

PLOWING EARTH.

Loosening the earth with a plow, with an extra team and men to help the driver giving the cost of wages combined for (10 hours work); also giving the cost per cubic yard, one or two teams:

Wages combined— Cost cubic yd. (cts.)—	\$4.00, 1 3-5,	\$4.25, 1 7-10,	\$4.50, 1 4-5,	\$4.75, 1 9-10,	\$5.00, 2,	\$5.25, 2 1-10,	\$5.50, 2 1-5,	\$5.75, 2 3-10,	\$6.00, 2 2-5,	\$6.25, 2 1/2,
Wages combined Cost cubic yd. cts.	\$6.50, 2 3-5,	\$6.75, 2 7-10,	\$7.00, 2 4-5,	\$7.25, 2 9-10,	\$7.50, 3,	\$7.75, 3 1-10,	\$8.00, 3 1-5,	\$8.25, 3 3-10,	\$8.50, 3 2-5,	\$8.75, 3 1/2,
Wages combined Cost cubic yd. cts.	\$9.00, 3 3-5,	\$9.25, 3 7-10,	\$9.50, 3 4-5,	\$9.75, 3 9-10,	\$10.00, 4,	\$10.25, 4 1-10,	\$10.50, 4 1-5,	\$10.75, 4 3-10,	\$11.00, 4 2-5.	

ARTICLE No. 2.

LOADING EARTH—SANDY SOIL.

Cost of labor shovelling 1 cubic yard of earth in wagon or fill (10 hours work):

Wages 10 hour— Cost cubic yd. (cts.)—	\$1.00, 5 1/2,	\$1.25, 7,	\$1.50, 8 1/2,	\$1.75, 9 3/4,	\$2.00, 11,	\$2.25, 12 1/2,	\$2.50, 14,	\$2.75, 15 1/2,	\$3.00, 16 3/4.
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ARTICLE No. 3.

LOADING EARTH—LOAM SOIL.

Wages 10 hour—	\$1.00,	\$1.25,	\$1.50,	\$1.75,	\$2.00,	\$2.25,	\$2.50,	\$2.75,	\$3.00
Cost Cubic yd. (cts.)—	6 1/4,	7 3/4,	9 3/4,	11,	12 1/2,	14 1/2,	15 5/8,	17 3/4,	18 3/4,

These prices are for earth which can be easily shoveled.

ARTICLE NO. 4. **LOADING EARTH HEAVY SOIL—CLAY AND TOUGH EARTH.**

Wages 10 hour—	\$1.00,	\$1.25,	\$1.50,	\$1.75,	\$2.00,	\$2.25,	\$2.50,	\$2.75,	\$3.00.
Cost cubic yd. (cts.)—	8½,	10½,	12½,	14½,	16½,	18½,	20½,	22½,	24½

If Hardpan, double cost of prices of earth to be picked, say wages \$2.00 shows 25 double equals 50 cents per cubic yard.

If earth to be picked (cts.)— 12½, 15½, 18½, 21½, 25, 28½, 31½, 34½, 37½

These prices are per cubic yard only for portions which cannot be spaded.

Shoveling or loading the loosened earth into wagons, the amount shoveled per day depends partly upon the weight of the materials, but more upon so proportioning the number of wagons and shovelers and the conditions of loosened earth. Managing the workman and have teams or wagons on hand ready to drive for load, we may say on ordinary size cellars or pits, allowing only one crew to work, seven or eight shovelers are generally worked and enough of teams and wagons to keep them employed. For example, we will say we have a cellar to excavate in one day of 10 hours and it requires (160 cubic yds. sandy soil yards) to be dug and hauled (one mile). One man can shovel 20 cubic yards in 10 hours, it would require 8 shovelers in 10 hours to dig 160 cubic yards and if the earth has to be hauled 1 mile, one team will haul 10 loads. It will require 16 teams to haul 160 cubic yards on basis of 1 cubic yard per load. **11** **some** localities 2 and 3 cubic yards of earth are hauled to a load which see cost table on teaming.

Cost of excavating 160 cubic yards of sandy soil hauled 1 mile at the following scale of wages paid to teams and shovelers for 10 hours:

8 Shovelers at \$1.50 per day	-----	\$12.00
16 Teams at 5.00 per day	-----	80.00
1 Foreman at 4.00 per day	-----	4.00
1 Water boy at 1.00 per day	-----	1.00
Actual cost	-----	\$97.00
Profit to contractor, say 20% on \$97.00	-----	19.40
Contract price	-----	\$116.40

Divided by 160 equals 72½ cents per cubic yard.

ARTICLE No. 5. COST OF EARTH HAULING BY WAGONS (½ Mile and Return)

One Cubic Yard per Load (27 Cubic Feet).

Team wages 10 hours—	\$3.00,	\$3.25,	\$3.50,	\$3.75,	\$4.00,	\$4.25,	\$4.50,	\$4.75,	\$5.00,	\$5.25,
Cost cubic yd. (cts.)—	17,	19,	20,	22,	23,	25,	26,	28,	29,	31,

	1 Cubic Yard per Load.									
Team wages 10 hours.....	\$3.00,	\$3.25,	\$3.50,	\$3.75,	\$4.00,	\$4.25,	\$4.50,	\$4.75,	\$5.00,	
Cost cubic yd. (cts.).....	23,	25,	27,	29,	31,	33,	35,	37,	39,	
Team wages 10 hours.....	\$5.25,	\$5.50,	\$5.75,	\$6.00,						
Cost cubic yd. (cts.).....	40,	42,	44,	46,						

ARTICLE No. 6½.

EARTH HAULING (1 Mile and Return).

1 Cubic Yard per Load.

Team wages 10 hours.....	\$3.00,	\$3.25,	\$3.50,	\$3.75,	\$4.00,	\$4.25,	\$4.50,	\$4.75,	\$5.00,	
Cost cubic yd. (cts.).....	30,	32,	35,	37,	40,	42,	45,	47,	50,	
Team wages 10 hours.....	\$5.25,	\$5.50,	\$5.75,	\$6.00,						
Cost cubic yd. (cts.).....	52,	55,	57,	60,						

ARTICLE No. 7.

EARTH HAULING (1¼ Miles and Return).

1 Cubic Yard per Load.

Team wages 10 hours.....	\$3.00,	\$3.25,	\$3.50,	\$3.75,	\$4.00,	\$4.25,	\$4.50,	\$4.75,	\$5.00,	
Cost cubic yard (cts.).....	37,	40,	43,	46,	50,	53,	56,	59,	62,	
Team wages 10 hours.....	\$5.25,	\$5.50,	\$5.75,	\$6.00,						
Cost cubic yd. (cts.).....	65,	68,	71,	75,						

ARTICLE No. 8.

EARTH HAULING (1½ Miles and Return).

1 Cubic Yard per Load.

Team wages 10 hours.....	\$3.00,	\$3.25,	\$3.50,	\$3.75,	\$4.00,	\$4.25,	\$4.50,	\$4.75,	\$5.00,
Cost cubic yd. (cts.).....	42,	46,	50,	53,	57,	60,	64,	67,	71,
Team wages 10 hours.....	\$5.25,	\$5.50,	\$5.75,	\$6.00,					
Cost cubic yd. cts.	75,	78,	82,	85.					

ARTICLE No. 9.

EARTH HAULING (1¼ Miles and Return).

1 Cubic Yard per Load.

Team wages 10 hours.....	\$3.00,	\$3.25,	\$3.50,	\$3.75,	\$4.00,	\$4.25,	\$4.50,	\$4.75,	\$5.00,
Cost cubic yd. (cts.).....	50,	54,	58,	62,	66,	70,	75,	79,	83,
Team wages 10 hours.....	\$5.25	\$5.50	\$5.75,	\$6.00.					
Cost cubic yd. cts.	87,	91,	95,	100.					

ARTICLE No. 10.

EARTH HAULING (2 Miles and Return).

1 Cubic Yard per Load.

Team wages 10 hours.....	\$3.00,	\$3.25,	\$3.50,	\$3.75,	\$4.00,	\$4.25,	\$4.50,	\$4.75,	\$5.00,
Cost cubic yd. (cts.).....	60,	65,	70,	75,	80,	85,	90,	95,	1.00,
Team wages 10 hours.....	\$5.25,	\$5.50,	\$5.75,	\$6.00.					
Cost cubic yd. cts.	1.05,	1.10,	1.15,	1.20.					

NOTE.—If 1½ cubic yards of earth is hauled per load, add the price given for 1 cubic yard to prices given on 2 cubic yards per load at a given distance then divide by 2, which will give cost per 1½ cubic yards. If earth is hauled 1 mile, wages \$4.50 per day, table shows on 1 cubic yard 45 cents

1 Cubic Yard per Load.

Team wages 10 hours.....	\$3.00,	\$3.25,	\$3.50,	\$3.75,	\$4.00,	\$4.25,	\$4.50,	\$4.75,	\$5.00,
Cost cubic yd. (cts.).....	75,	81,	87,	93,	100,	106,	112,	118,	125,
Team wages 10 hours.....	\$5.25,	\$5.50,	\$5.75,	\$6.00.					
Cost cubic yd. (cts.).....	131,	137,	143,	150.					

ARTICLE No 1 EARTH HAULING (4 Miles and Return).

1 Cubic Yard per Load.

Team wages 10 hours.....	\$3.00,	\$3.25,	\$3.50,	\$3.75,	\$4.00,	\$4.25,	\$4.50,	\$4.75,	\$5.00,
Cost cubic yd. (cts.).....	100,	108,	116,	123,	133,	141,	150,	158,	166,
Team wages 10 hours	\$5.25,	\$5.50,	\$5.75,	\$6.00.					
Cost cubic yd. (cts.)	175,	183,	191,	200.					

ARTICLE No. 13. EARTH HAULING (5 Miles and Return).

1 Cubic Yard per Load.

Team wages 10 hours.....	\$3.00,	\$3.25,	\$3.50,	\$3.75,	\$4.00,	\$4.25,	\$4.50,	\$4.75,	\$5.00,
Cost cubic yd. (cts.).....	150,	162,	175,	187,	200,	212,	225,	237,	250,
Team wages 10 hours.....	\$5.25,	\$5.50,	\$5.75,	\$6.00.					
Cost cubic yd. (cts.).....	262,	275,	287,	300.					

NOTE.—Figuring the time and cost for teaming any distance over 3 miles and return, makes the time very unbroken. A team will haul 4 loads in 10 hours and 16 minutes allowing (2 hours and 34 minutes to make the trip). To make the trip of $3\frac{1}{4}$ miles requires about 2 hours and 46 minutes, thus enabling the teams to make only 3 loads per 10 hours which will only require 8 hours and 18 minutes. To make an extra load would require 11 hours and 4 minutes, making the 3 loads in 10 hours the team loses 1 hour and 42 minutes. See tables on teaming giving the number of loads per day, also the time it requires approximately. In long hauls 2 or 3 yards per load should be hauled in Patented Dump wagons or other wagon beds made to hold the required amount. If the road is bad and hills to climb use 3 horses or perhaps a snatch team can be used to an advantage.

ARTICLE No. 14. COST OF EARTH HAULING BY WAGON ($\frac{1}{2}$ Mile and Return).

(2 Cubic Yards per Load).

Team wages 10 hours.....	\$3.00,	\$3.25,	\$3.50,	\$3.75,	\$4.00,	\$4.25,	\$4.50,	\$4.75,	\$5.00,
Cost cubic yd. (cts.).....	10,	10 $\frac{1}{2}$ %,	11 $\frac{1}{2}$ %,	12 $\frac{1}{2}$ %,	13 $\frac{1}{2}$ %,	14 $\frac{1}{2}$ %,	15,	15 $\frac{1}{2}$ %,	16 $\frac{1}{2}$ %,
Team wages 10 hours.....	\$5.25,	\$5.50,	\$5.75,	\$6.00.					
Cost cubic yd. (cts.).....	17 $\frac{1}{2}$ %,	18 $\frac{1}{2}$ %,	19 $\frac{1}{2}$ %,	20.					

ARTICLE No. 15. EARTH HAULING ($\frac{3}{4}$ Mile and Return).

(2 Cubic Yards per Load).

Team wages 10 hours.....	\$3.00,	\$3.25,	\$3.50,	\$3.75,	\$4.00,	\$4.25,	\$4.50,	\$4.75,	\$5.00,
Cost cubic yard (cts)	14,	15,	16,	17,	18,	19,	20,	21,	22,
-----	---	14 25	15 50	16 75	18 00	19 25	20 50	21 75	23 00

YEARLY HAULING (1 Mile and Return).

(2 Cubic Yards per Load).

Team wages 10 hours.....	\$3.00,	\$3.75,	\$4.00,	\$4.25	\$4.50,	\$4.75,	\$5.00,
Cost cubic yd. (cts).....	16,	20,	22,	23,	25,	26,	27,

Team wages 10 hours.....	\$5.25,	\$5.50,	\$5.75,	\$6.00.
Cost cubic yd. (cts).....	29,	30,	32,	33.

ARTICLE No. 17. EARTH HAULING; (1 1/4 Miles and Return).

(2 Cubic Yards per Load).

21	Team wages 10 hours.....	\$3.00,	\$3.25,	\$3.50,	\$3.75,	\$4.00,	\$4.25,	\$4.50,	\$4.75,	\$5.00,
	Cost cubic yd. (cts).....	18,	20,	21,	23,	25,	26,	28,	30,	31,

Team wages 10 hours.....	\$5.25,	\$5.50,	\$6.00.
Cost cubic yd. (cts).....	32,	34,	37.

ARTICLE No. 18.
EARTH HAULING; (1 1/4 Miles and Return.)

(2 Cubic Yards per Load).

Team wages 10 hours.....	\$3.00,	\$3.25,	\$3.50,	\$3.75,	\$4.00,	\$4.25,	\$4.50,	\$4.75,	\$5.00,
Cost cubic yd. (cts).....	21,	23,	25,	26,	28,	30,	32,	33,	35,

Team wages, 10 hours	\$5.25,	\$5.50,	\$5.75,	\$6.00.
Cost cubic yd. (cts)	37,	39,	41,	42.

ARTICLE No. 19.

EARTH HAULING (1¾ Miles and Return).

	(2 Cubic Yards per Load)									
Team wages 10 hours.....	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	
Cost cubic yd. (cts.).....	.25	.27	.29	.31	.33	.35	.37	.39	.41	
Team wages 10 hours.....	\$5.25	\$5.50	\$5.75	\$6.00						
Cost cubic yd. (cts.).....	.43	.45	.48	.50						

ARTICLE No. 20.

EARTH HAULING (2 Miles and Return)

	(2 Cubic Yards per Load)									
Team wages 10 hours.....	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	
Cost cubic yd. (cts.).....	.30	.32	.35	.37	.40	.42	.45	.47	.50	
Team wages 10 hours.....	\$5.25	\$5.50	\$5.75	\$6.00						
Cost cubic yd. (cts.).....	.52	.55	.57	.60						

ARTICLE No. 21.

EARTH HAULING (2¾ Miles and Return)

	(2 Cubic Yards per Load)									
Team wages 10 hours.....	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	
Cost cubic yd. (cts.).....	.37	.40	.43	.46	.50	.53	.56	.59	.62	
Team wages 10 hours.....	\$5.25	\$5.50	\$5.75	\$6.00						
Cost cubic yd. (cts.).....	.65	.68	.71	.75						

ARTICLE No. 22.

EARTH HAULING (4 Miles and Return)

(2 Cubic Yards per Load)

Team wages 10 hours.....	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost cubic yd. (cts.).....		.50	.54	.58	.62	.66	.70	.75	.83
Team wages 10 hours.....	\$5.25	\$5.50	\$5.75	\$6.00					
Cost cubic yd. (cts.).....	.87	.91	.95	1.00					

ARTICLE No. 23.

EARTH HAULING (5 Miles and Return)

(2 Cubic Yards per Load)

Team wages 10 hours.....	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost cubic yd. (cts.).....		.75	.81	.87	.93	1.00	1.06	1.12	1.25
Team wages 10 hours.....	\$5.25	\$5.50	\$5.75	\$6.00					
Cost cubic yd. (cts.).....	1.31	1.37	1.43	1.50					

ARTICLE No. 24.

EARTH HAULING ($\frac{1}{4}$ Mile and Return)

(3 Cubic Yards per Load)

Team wages 10 hours.....	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost cubic yd. (cts.).....		.07 $\frac{1}{2}$	.08 $\frac{1}{8}$	.08 $\frac{3}{4}$	.09 $\frac{3}{8}$	.10	.10 $\frac{5}{8}$	.11 $\frac{1}{4}$	.12 $\frac{1}{8}$
Team wages 10 hours.....	\$5.25	\$5.50	\$5.75	\$6.00					
Cost cubic yd. (cts.).....	.13 $\frac{1}{8}$	.13 $\frac{3}{4}$	.14 $\frac{1}{2}$	.15					

ARTICLE No. 25.

EARTH HAULING ($\frac{3}{4}$ Miles and Return)

(3 Cubic Yards per Load)

Team wages 10 hours.....	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost cubic yd. (cts.).....	.10	.10 $\frac{5}{8}$	.11 $\frac{1}{2}$	.12 $\frac{1}{2}$	.13 $\frac{1}{2}$	.14 $\frac{1}{2}$	.15	15	5-6
Team wages 10 hours.....	\$5.25	\$5.50	\$5.75	\$6.00					
Cost cubic yd. (cts.).....	.17 $\frac{1}{2}$	.18 $\frac{1}{2}$	.19 $\frac{1}{2}$	.20					.16 $\frac{3}{8}$

ARTICLE No. 26.

EARTH HAULING (1 Mile and Return)

(3 Cubic Yards per Load)

Team wages 10 hours.....	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost cubic yd. (cts.).....	.13	.14	.15	.16	.17	.18	.19	.20	.21
Team wages 10 hours.....	\$5.25	\$5.50	\$5.75	\$6.00					
Cost cubic yd. (cts.).....	.22	.23	.24	.25					

ARTICLE No. 27.

EARTH HAULING ($1\frac{1}{4}$ Miles and Return)

(3 Cubic Yards per Load)

Team wages 10 hours.....	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost cubic yd. (cts.).....	.14	.15	.16	.17	.19	.20	.21	.22	.23
Team wages 10 hours.....	\$5.25	\$5.50	\$5.75	\$6.00					
Cost cubic yd. (cts.).....	.25	.26	.27	.28					

ARTICLE No. 28.

EARTH HAULING (1½ Miles and Return)
(3 Cubic Yards per Load)

Team wages 10 hours.....	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost cubic yd. (cts.).....	.16	.18	.19	.20	.22	.23	.25	.26	.27
Team wages 10 hours.....	\$5.25	\$5.50	\$5.75	\$6.00					
Cost cubic yd. (cts.).....	.29	.30	.32	.33					

ARTICLE No. 29.

EARTH HAULING (1¼ Miles and Return)
(3 Cubic Yards per Load)

Team wages 10 hours.....	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost cubic yd. (cts.).....	.18	.20	.21	.23	.25	.26	.28	.29	.31
Team wages 10 hours.....	\$5.25	\$5.50	\$5.75	\$6.00					
Cost cubic yd. (cts.).....	.32	.34	.36	.37					

ARTICLE No. 30.

EARTH HAULING (2 Miles and Return)
(3 Cubic Yards per Load)

Team wages 10 hours.....	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost cubic yd. (cts.).....	.20	.21	.23	.25	.26	.28	.30	.31	.33
Team wages 10 hours.....	\$5.25	\$5.50	\$5.75	\$6.00					
Cost cubic yd. (cts.).....	.35	.36	.38	.40					

ARTICLE No. 31.

EARTH HAULING (2¾ Miles and Return)

(3 Cubic Yards per Load)

Team wages 10 hours.....	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost cubic yd. (cts.).....	.25	.27	.29	.31	.33	.35	.37	.39	.41
Team wages 10 hours.....	\$5.25	\$5.50	\$5.75	\$6.00					
Cost cubic yd. (cts.).....	.43	.45	.48	.50					

ARTICLE No. 32.

EARTH HAULING (3¾ Miles and Return)

(3 Cubic Yards per Load)

Team wages 10 hours.....	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost cubic yd. (cts.).....	.33	.36	.38	.41	.44	.47	.50	.52	.55
Team wages 10 hours.....	\$5.25	\$5.50	\$5.75	\$6.00					
Cost cubic yd. (cts.).....	.58	.61	.63	.66					

ARTICLE No. 33.

EARTH HAULING (5 Miles and Return)

(3 Cubic Yards per Load)

Team wages 10 hours.....	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost cubic yd (cts.).....	.50	.54	.58	.62	.66	.70	.75	.79	.83
Team wages 10 hours.....	\$5.25	\$5.50	\$5.75	\$6.00					
Cost cubic yd. (cts.).....	.87	.91	.95	1.00					

Team wages 10 hrs.
Cost cubic yd. (cts.)

ARTICLE No. 34. SNATCH TEAM TO ASSIST WAGONS OUT OF CELLAR OR PIT ON BASIS OF PULLING (50 CUBIC YARDS OR LOADS)

(1 Cubic Yard per Load)

Team wages 10 hours.....	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost cubic yd. (cts.).....	.06	.06½	.07	.07½	.08	.08½	.09	.09½	.10
Team wages 10 hours.....	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25	\$6.50	\$6.75	\$7.00	
Cost cubic yd. (cts.).....	.10½	.11	.11½	.12	.12½	.13	.13½	.14	

ARTICLE No. 35. SNATCH TEAM (BASIS 60 CUBIC YARDS OR LOADS)

(1 Cubic Yard per Load)

Team wages 10 hours.....	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost cubic yd. (cts.).....	.05	.05½	5 5-6	.06¼	.06½	.07	.07½	.08	.08½
Team wages 10 hours.....	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25	\$6.50	\$6.75	\$7.00	
Cost cubic yd. (cts.).....	8 3-5	.09½	.09½	.10	.10½	10 5-6	.11¼	.11½	

ARTICLE No. 36. SNATCH TEAM (BASIS 75 CUBIC YARDS OR LOADS)

(1 Cubic Yard per Load)

Team wages 10 hours.....	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost cubic yd. (cts.).....	.04	.04½	.04½	.05	.05½	.05½	.06	.06½	.06¾
Team wages 10 hours.....	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25	\$6.50	\$6.75	\$7.00	
Cost cubic yd. (cts.).....	.07	.07½	.07½	.08	.08½	.08¾	.09	.09½	

ARTICLE No. 37. SNATCH TEAM (BASIS 100 CUBIC YARDS OR LOADS)

(1 Cubic Yard per Load)

Team wages 10 hours.....	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost cubic yd. (cts.).....	.03	.03¼	.03½	.03¾	.04	.04¼	.04½	.04¾	.05
Team wages 10 hours.....	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25	\$6.50	\$6.75	\$7.00	
Cost cubic yd. (cts.).....	.05¼	.05½	.05¾	.06	.06¼	.06½	.06¾	.07	

ARTICLE No. 38. SNATCH TEAM (BASIS 125 CUBIC YARDS OR LOADS)

(1 Cubic Yard per Load)

Team wages 10 hours.....	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost cubic yd. (cts.).....	2 2-5	2 3-5	2 4-5	.03	3 1-5	3 2-5	3 3-5	3 4-5	.04
Team wages 10 hours.....	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25	\$6.50	\$6.75	\$7.00	
Cost cubic yd. (cts.).....	4 1-5	4 2-5	4 3-5	4 4-5	.05	5 1-5	5 2-5	5 3-5	

ARTICLE No. 39. SNATCH TEAM ON BASIS OF PULLING (50 LOADS OR 100 CUBIC YARDS)

(2 Cubic Yards per Load)

Team wages 10 hours.....	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, load (cts.).....	.06	.06½	.07	.07½	.08	.08½	.09	.09½	.10
Cost cubic yd. (cts.).....	.03	.03¼	.03½	.03¾	.04	.04¼	.04½	.04¾	.05
Team wages 10 hours.....	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25	\$6.50	\$6.75	\$7.00	
Cost, load (cts.).....	.10½	.11	.11½	.12	.12½	.13	.13½	.14	
Cost cubic yd. (cts.).....	.05¼	.05½	.05¾	.06	.06¼	.06½	.06¾	.07	

ARTICLE No. 40.

SNATCH TEAM (BASIS 60 LOADS OR 120 CUBIC YARDS)

(2 Cubic Yards per Load)

Team wages 10 hours.....	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, load (cts.).....	.05	.05½	.06	.06¼	.06½	.07	.07½	.08	.08½
Cost cubic yd. (cts.).....	.02½	.02¾	.03	.03½	.03¾	.03½	.03¾	.04	.04½

Team wages 10 hours.....	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25	\$6.50	\$6.75	\$7.00
Cost, load (cts.).....	.08¾	.09	.09½	.10	.10½	.10 5-6	.11½	.11¾
Cost cubic yd. (cts.).....	.04¾	.04½	.04¾	.05	.05¼	5 5-12 5 5-8 5 5-6		

ARTICLE No. 41.

SNATCH TEAM (BASIS 75 LOADS OR 150 CUBIC YARDS)

(2 Cubic Yards per Load)

Team wages 10 hours.....	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, load (cts.).....	.04	.04½	.04¾	.05	.05½	.05¾	.06	.06½	.06¾
Cost, cubic yd. (cts.).....	.02	.02½	.02¾	.02½	.02¾	2 5-6 .03	.03½	.03¾	

Team wages 10 hours.....	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25	\$6.50	\$6.75	\$7.00
Cost, load (cts.).....	.07	.07½	.07¾	.08	.08½	.08¾	.09	.09½
Cost cubic yd. (cts.).....	.03½	.03¾	3 5-6 .04	.04	.04½	.04¾	.04½	.04¾

ARTICLE No. 42.

SNATCH TEAM (BASIS 100 LOADS OR 200 CUBIC YARDS)

(2 Cubic Yards per Load)

Team wages 10 hours.....	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, load (cts.).....	.03	.03¼	.03½	.03¾	.04	.04¼	.04½	.04¾	.05
Cost cubic yd. (cts.).....	.01½	.01¾	.01¾	.01¾	.02	.02¼	.02½	.02¾	.02½
Team wages 10 hours.....	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25	\$6.50	\$6.75	\$7.00	
Cost, load (cts.).....	.05¼	.05½	.05¾	.06	.06¼	.06½	.06¾	.07	
Cost cubic yd. (cts.).....	.02½	.02¾	.02¾	.03	.03¼	.03½	.03¾	.03½	

NOTE.—A good snatch team will assist in hauling 200 to 250 loads per day at a distance of 100 to 150

ARTICLE No. 43.

SPREADING OR LEVELING OFF THE EARTH AT DUMP OR FILL

(Basis 75 to 100 Cubic Yards)

Shovelers' wages 10 hours.....	\$1.50	\$1.65	\$1.75	\$1.85	\$2.00	\$2.15	\$2.25	\$2.40	\$2.50
Cost cubic yd. (cts.).....	.01½	1 3-5	.01¾	1 4-5	.02	.02¼	.02½	2 2-5	.02½
Shovelers' wages 10 hours.....	\$2.65	\$2.75	\$2.80	\$3.00					
Cost cubic yd. (cts.).....	2 3-5	.02¾	2 4-5	.03					

ARTICLE NO. 44.

SUPERINTENDENT, FOREMAN, TIMEKEEPER AND WATER CARRIERS' WAGES FOR ONE

OR MORE

(10 Hours or Less—Basis 50 Cubic Yards)

Wages combined.....	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00
Cost cubic yd. (cts.).....	.04	.04½	.05	.05½	.06	.06½	.07	.07½	.08
Wages combined.....	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost cubic yd. (cts.).....	.08½	.09	.09½	.10	.10½	.11	.11½	.12	.12½
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25	\$8.50
Cost cubic yd. (cts.).....	.13	.13½	.14	.14½	.15	.15½	.16	.16½	.17
Wages combined.....	\$8.75	\$9.00	\$9.25	\$9.50	\$9.75	\$10.00	\$10.25	\$10.50	\$10.75
Cost cubic yd. (cts.).....	.17½	.18	.18½	.19	.19½	.20	.20½	.21	.21½
Wages combined.....	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00
Cost cubic yd. (cts.).....	.22	.22½	.23	.23½	.24	.24½	.25	.25½	.26
Wages combined.....	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00	\$15.25
Cost cubic yd. (cts.).....	.26½	.27	.27½	.28	.28½	.29	.29½	.30	.30½
Wages combined.....	\$15.50	\$15.75	\$16.00						
Cost cubic yd. (cts.).....	.31	.31½	.32						

	1904	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	2101	2102	2103	2104	2105	2106	2107	2108	2109	2110	2111	2112	2113	2114	2115	2116	2117	2118	2119	2120	2121	2122	2123	2124	2125	2126	2127	2128	2129	2130	2131	2132	2133	2134	2135	2136	2137	2138	2139	2140	2141	2142	2143	2144	2145	2146	2147	2148	2149	2150	2151	2152	2153	2154	2155	2156	2157	2158	2159	2160	2161	2162	2163	2164	2165	2166	2167	2168	2169	2170	2171	2172	2173	2174	2175	2176	2177	2178	2179	2180	2181	2182	2183	2184	2185	2186	2187	2188	2189	2190	2191	2192	2193	2194	2195	2196	2197	2198	2199	2200	2201	2202	2203	2204	2205	2206	2207	2208	2209	2210	2211	2212	2213	2214	2215	2216	2217	2218	2219	2220	2221	2222	2223	2224	2225	2226	2227	2228	2229	2230	2231	2232	2233	2234	2235	2236	2237	2238	2239	2240	2241	2242	2243	2244	2245	2246	2247	2248	2249	2250	2251	2252	2253	2254	2255	2256	2257	2258	2259	2260	2261	2262	2263	2264	2265	2266	2267	2268	2269	2270	2271	2272	2273	2274	2275	2276	2277	2278	2279	2280	2281	2282	2283	2284	2285	2286	2287	2288	2289	2290	2291	2292	2293	2294	2295	2296	2297	2298	2299	2300	2301	2302	2303	2304	2305	2306	2307	2308	2309	2310	2311	2312	2313	2314	2315	2316	2317	2318	2319	2320	2321	2322	2323	2324	2325	2326	2327	2328	2329	2330	2331	2332	2333	2334	2335	2336	2337	2338	2339	2340	2341	2342	2343	2344	2345	2346	2347	2348	2349	2350	2351	2352	2353	2354	2355	2356	2357	2358	2359	2360	2361	2362	2363	2364	2365	2366	2367	2368	2369	2370	2371	2372	2373	2374	2375	2376	2377	2378	2379	2380	2381	2382	2383	2384	2385	2386	2387	2388	2389	2390	2391	2392	2393	2394	2395	2396	2397	2398	2399	2400	2401	2402	2403	2404	2405	2406	2407	2408	2409	2410	2411	2412	2413	2414	2415	2416	2417	2418	2419	2420	2421	2422	2423	2424	2425	2426	2427	2428	2429	2430	2431	2432	2433	2434	2435	2436	2437	2438	2439	2440	2441	2442	2443	2444	2445	2446	2447	2448	2449	2450	2451	2452	2453	2454	2455	2456	2457	2458	2459	2460	2461	2462	2463	2464	2465	2466	2467	2468	2469	2470	2471	2472	2473	2474	2475	2476	2477	2478	2479	2480	2481	2482	2483	2484	2485	2486	2487	2488	2489	2490	2491	2492	2493	2494	2495	2496	2497	2498	2499	2500	2501	2502	2503	2504	2505	2506	2507	2508	2509	2510	2511	2512	2513	2514	2515	2516	2517	2518	2519	2520	2521	2522	2523	2524	2525	2526	2527	2528	2529	2530	2531	2532	2533	2534	2535	2536	2537	2538	2539	2540	2541	2542	2543	2544	2545	2546	2547	2548	2549	2550	2551	2552	2553	2554	2555	2556	2557	2558	2559	2560	2561	2562	2563	2564	2565	2566	2567	2568	2569	2570	2571	2572	2573	2574	2575	2576	2577	2578	2579	2580	2581	2582	2583	2584	2585	2586	2587	2588	2589	2590	2591	2592	2593	2594	2595	2596	2597	2598	2599	2600	2601	2602	2603	2604	2605	2606	2607	2608	2609	2610	2611	2612	2613	2614	2615	2616	2617	2618	2619	2620	2621	2622	2623	2624	2625	2626	2627	2628	2629	2630	2631	2632	2633	2634	2635	2636	2637	2638	2639	2640	2641	2642	2643	2644	2645	2646	2647	2648	2649	2650	2651	2652	2653	2654	2655	2656	2657	2658	2659	2660	2661	2662	2663	2664	2665	2666	2667	2668	2669	2670	2671	2672	2673	2674	2675	2676	2677	2678	2679	2680	2681	2682	2683	2684	2685	2686	2687	2688	2689	2690	2691	2692	2693	2694	2695	2696	2697	2698	2699	2700	2701	2702	2703	2704	2705	2706	2707	2708	2709	2710	2711	2712	2713	2714	2715	2716	2717	2718	2719	2720	2721	2722	2723	2724	2725	2726	2727	2728	2729	2730	2731	2732	2733	2734	2735	2736	2737	2738	2739	2740	2741	2742	2743	2744	2745	2746	2747	2748	2749	2750	2751	2752	2753	2754	2755	2756	2757	2758	2759	2760	2761	2762	2763	2764	2765	2766	2767	2768	2769	2770	2771	2772	2773	2774	2775	2776	2777	2778	2779	2780	2781	2782	2783	2784	2785	2786	2787	2788	2789	2790	2791	2792	2793	2794	2795	2796	2797	2798	2799	2800	2801	2802	2803	2804	2805	2806	2807	2808	2809	2810	2811	2812	2813	2814	2815	2816	2817	2818	2819	2820	2821	2822	2823	2824	2825	2826	2827	2828	2829	2830	2831	2832	2833	2834	2835	2836	2837	2838	2839	2840	2841	2842	2843	2844	2845	2846	2847	2848	2849	2850	2851	2852	2853	2854	2855	2856	2857	2858	2859	2860	2861	2862	2863	2864	2865	2866	2867	2868	2869	2870	2871	2872	2873	2874	2875	2876	2877	2878	2879	2880	2881	2882	2883	2884	2885	2886	2887	2888	2889	2890	2891	2892	2893	2894	2895	2896	2897	2898	2899	2900	2901	2902	2903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ARTICLE NO. 48.

SUPERINTENDENT, FOREMAN, TIMEKEEPER AND WATER CARRIERS' WAGES FOR ONE
OR MORE

(10 Hours or Less—Basis 150 Cubic Yards)

Wages combined.....	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00
Cost cubic yd. (cts.).....	.01 1/2	.01 1/2	.01 3/4	1 5-6	.02	.02 1/4	.02 1/2	.02 3/4	.02 3/4
Wages combined.....	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost cubic yd. (cts.).....	2 5-6	.03	.03 1/4	.03 1/2	.03 3/4	.03 3/4	3 5-6	.04	.04 1/4
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25	\$8.50
Cost cubic yd. (cts.).....	.04 1/2	.04 1/2	.04 3/4	4 5-6	.05	.05 1/4	.05 1/2	.05 3/4	.05 3/4
Wages combined.....	\$8.75	\$9.00	\$9.25	\$9.50	\$9.75	\$10.00	\$10.25	\$10.50	\$10.75
Cost cubic yd. (cts.).....	5 5-6	.06	.06 1/4	.06 1/2	.06 3/4	.06 3/4	6 5-6	.07 1/4	.07 1/4
Wages combined.....	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00
Cost cubic yd. (cts.).....	.07 1/2	.07 3/4	7 5-6	.08	.08 1/4	.08 1/4	.08 1/2	.08 3/4	8 5-6
Wages combined.....	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00	\$15.25
Cost cubic yd. (cts.).....	.09	.09 1/4	.09 1/2	.09 3/4	.09 3/4	9 5-6	.10	.10 1/4	.10 1/4
Wages combined.....	\$15.50	\$15.75	\$16.00						
Cost cubic yd. (cts.).....	.10 1/2	.10 3/4	10 5-6						

ARTICLE NO. 45.

SUPERINTENDENT, FOREMAN, TIMEKEEPER AND WATER CARRIERS' WAGES FOR ONE OR MORE

(10 Hours or Less—Basis 75 Cubic Yards)

Wages combined.....	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00
Cost cubic yd. (cts.).....	.02 $\frac{3}{8}$	.03	.03 $\frac{1}{8}$	.03 $\frac{3}{8}$	.04	.04 $\frac{1}{8}$	.04 $\frac{3}{8}$	.05	.05 $\frac{1}{8}$
Wages combined.....	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost cubic yd. (cts.).....	.05 $\frac{1}{8}$	.06	.06 $\frac{1}{8}$	.06 $\frac{3}{8}$	.07	.07 $\frac{1}{8}$	.07 $\frac{3}{8}$	.08	.08 $\frac{1}{8}$
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25	\$8.50
Cost cubic yd (cts.).....	.08 $\frac{3}{8}$	.09	.09 $\frac{1}{8}$	.09 $\frac{3}{8}$	.10	.10 $\frac{1}{8}$	.10 $\frac{3}{8}$	.11	.11 $\frac{1}{8}$
Wages combined.....	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00	\$10.25	\$10.50	\$10.75
Cost cubic yd. (cts.).....	.11 $\frac{3}{8}$	.12	.12 $\frac{1}{8}$	.12 $\frac{3}{8}$	.13	.13 $\frac{1}{8}$	.13 $\frac{3}{8}$	.14	.14 $\frac{1}{8}$
Wages combined.....	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00
Cost cubic yd. (cts.).....	.14 $\frac{3}{8}$	.15	.15 $\frac{1}{8}$	.15 $\frac{3}{8}$	.16	.16 $\frac{1}{8}$	.16 $\frac{3}{8}$	.17	.17 $\frac{1}{8}$
Wages combined.....	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00	\$15.25
Cost cubic yd. (cts.).....	.17 $\frac{3}{8}$	.18	.18 $\frac{1}{8}$	.18 $\frac{3}{8}$	.19	.19 $\frac{1}{8}$	.19 $\frac{3}{8}$	.20	.20 $\frac{1}{8}$

ARTICLE NO. 46.

SUPERINTENDENT, FOREMAN, TIMEKEEPER AND WATER CARRIERS' WAGES FOR ONE
OR MORE

(10 Hours or Less—Basis 100 Cubic Yards)

Wages combined.....	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00
Cost cubic yd. (cts.).....	.02	.02 $\frac{1}{4}$	.02 $\frac{1}{2}$	.02 $\frac{3}{4}$	.03	.03 $\frac{1}{4}$	.03 $\frac{1}{2}$	.03 $\frac{3}{4}$	.04
Wages combined.....	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost cubic yd. (cts.).....	.04 $\frac{1}{4}$	.04 $\frac{1}{2}$	.04 $\frac{3}{4}$	.05	.05 $\frac{1}{4}$	.05 $\frac{1}{2}$	.05 $\frac{3}{4}$	.06	.06 $\frac{1}{4}$
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25	\$8.50
Cost cubic yd. (cts.).....	.06 $\frac{1}{2}$	.06 $\frac{3}{4}$	.07	.07 $\frac{1}{4}$	.07 $\frac{1}{2}$	.07 $\frac{3}{4}$	.08	.08 $\frac{1}{4}$	.08 $\frac{1}{2}$
Wages combined.....	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00	\$10.25	\$10.50	\$10.75
Cost cubic yd. (cts.).....	.08 $\frac{3}{4}$	.09	.09 $\frac{1}{4}$	.09 $\frac{1}{2}$	.09 $\frac{3}{4}$	.10	.10 $\frac{1}{4}$	.10 $\frac{1}{2}$	.10 $\frac{3}{4}$
Wages combined.....	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00
Cost cubic yd. (cts.).....	.11	.11 $\frac{1}{4}$	.11 $\frac{1}{2}$	.11 $\frac{3}{4}$	.12	.12 $\frac{1}{4}$	.12 $\frac{1}{2}$	.12 $\frac{3}{4}$	.13
Wages combined.....	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00	\$15.25
Cost cubic yd. (cts.).....	.13 $\frac{1}{4}$	.13 $\frac{1}{2}$	.13 $\frac{3}{4}$	.14	.14 $\frac{1}{4}$	.14 $\frac{1}{2}$	.14 $\frac{3}{4}$	.15	.15 $\frac{1}{4}$
Wages combined.....	\$15.50	\$15.75	\$16.00						
Cost cubic yd. (cts.).....	.15 $\frac{1}{4}$	.15 $\frac{1}{2}$	.15 $\frac{3}{4}$						

ARTICLE No. 47.

SUPERINTENDENT, FOREMAN, TIMEKEEPER AND WATER CARRIERS' WAGES FOR ONE OR MORE

(10 Hours or Less—Basis 125 Cubic Yards)

Wages combined.....	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00
Cost cubic yd. (cts.).....	13-5	14-5	.02	21-5	22-5	23-5	24-5	.03	31-5
Wages combined.....	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost cubic yd. (cts.).....	32-5	33-5	34-5	.04	41-5	42-5	43-5	44-5	.05
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25	\$8.50
Cost cubic yd. (cts.).....	51-5	52-5	53-5	54-5	.06	61-5	62-5	63-5	64-5
Wages combined.....	\$8.75	\$9.00	\$9.25	\$9.50	\$9.75	\$10.00	\$10.25	\$10.50	\$10.75
Cost cubic yd. (cts.).....	.07	71-5	72-5	73-5	74-5	.08	81-5	82-5	83-5
Wages combined.....	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00
Cost cubic yd. (cts.).....	84-5	.09	91-5	92-5	93-5	94-5	.10	101-5	102-5
Wages combined.....	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00	\$15.25
Cost cubic yd. (cts.).....	103-5	104-5	.11	111-5	112-5	113-5	114-5	.12	121-5
Wages combined.....	\$15.50	\$15.75	\$16.00						
Cost cubic yd. (cts.).....	122-5	123-5	124-5						

SUPERINTENDENT, FOREMAN, TIMEKEEPER AND WATER CARRIERS' WAGES FOR ONE

OR MORE

(10 Hours or Less—Basis 150 Cubic Yards)

Wages combined.....	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00
Cost cubic yd. (cts.).....	.01½	.01½	.01½	1 5-6	.02	.02½	.02½	.02½	.02½
Wages combined.....	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost cubic yd. (cts.).....	2 5-6	.03	.03½	.03½	.03½	.03½	3 5-6	.04	.04½
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25	\$8.50
Cost cubic yd. (cts.).....	.04½	.04½	.04½	4 5-6	.05	.05½	.05½	.05½	.05½
Wages combined.....	\$8.75	\$9.00	\$9.25	\$9.50	\$9.75	\$10.00	\$10.25	\$10.50	\$10.75
Cost cubic yd. (cts.).....	5 5-6	.06	.06½	.06½	.06½	.06½	6 5-6	.07½	.07½
Wages combined.....	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00
Cost cubic yd. (cts.).....	.07½	.07½	7 5-6	.08	.08½	.08½	.08½	.08½	8 5-6
Wages combined.....	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00	\$15.25
Cost cubic yd. (cts.).....	.09	.09½	.09½	.09½	.09½	.09½	9 5-6	.10	.10½
Wages combined.....	\$15.50	\$15.75	\$16.00						
Cost cubic yd. (cts.).....	.10½	.10½	10 5-6						

ARTICLE No. 47.

SUPERINTENDENT, FOREMAN, TIMEKEEPER AND WATER CARRIERS' WAGES FOR ONE OR MORE

(10 Hours or Less—Basis 125 Cubic Yards)

Wages combined.....	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00
Cost cubic yd. (cts.).....	13-5	14-5	.02	21-5	22-5	23-5	24-5	.03	31-5
Wages combined.....	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost cubic yd. (cts.).....	32-5	33-5	34-5	.04	41-5	42-5	43-5	44-5	.05
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25	\$8.50
Cost cubic yd. (cts.).....	51-5	52-5	53-5	54-5	.06	61-5	62-5	63-5	64-5
Wages combined.....	\$8.75	\$9.00	\$9.25	\$9.50	\$9.75	\$10.00	\$10.25	\$10.50	\$10.75
Cost cubic yd. (cts.).....	.07	71-5	72-5	73-5	74-5	.08	81-5	82-5	83-5
Wages combined.....	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00
Cost cubic yd. (cts.).....	84-5	.09	91-5	92-5	93-5	94-5	.10	101-5	102-5
Wages combined.....	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00	\$15.25
Cost cubic yd. (cts.).....	103-5	104-5	.11	111-5	112-5	113-5	114-5	.12	121-5
Wages combined.....	\$15.50	\$15.75	\$16.00						
Cost cubic yd. (cts.).....	122-5	123-5	124-5						

**SUPERINTENDENT, FOREMAN, TIMEKEEPER AND WATER CARRIERS' WAGES FOR ONE
OR MORE**

(10 Hours or Less—Basis 150 Cubic Yards)

Wages combined.....	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00
Cost cubic yd. (cts.).....	.01 1/8	.01 1/2	.01 3/4	1 5-6	.02	.02 1/8	.02 1/4	.02 1/2	.02 3/4
Wages combined.....	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost cubic yd. (cts.).....	2 5-6	.03	.03 1/8	.03 1/4	.03 1/2	.03 3/8	3 5-6	.04	.04 1/4
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25	\$8.50
Cost cubic yd. (cts.).....	.04 1/8	.04 1/2	.04 3/4	4 5-6	.05	.05 1/8	.05 1/4	.05 1/2	.05 3/4
Wages combined.....	\$8.75	\$9.00	\$9.25	\$9.50	\$9.75	\$10.00	\$10.25	\$10.50	\$10.75
Cost cubic yd. (cts.).....	5 5-6	.06	.06 1/8	.06 1/4	.06 1/2	.06 3/8	6 5-6	.07 1/8	.07 1/4
Wages combined.....	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00
Cost cubic yd. (cts.).....	.07 1/2	.07 3/4	7 5-6	.08	.08 1/8	.08 1/4	.08 1/2	.08 3/4	8 5-6
Wages combined.....	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00	\$15.25
Cost cubic yd. (cts.).....	.09	.09 1/8	.09 1/4	.09 1/2	.09 3/4	9 5-6	.10	.10 1/8	.10 1/4
Wages combined.....	\$15.50	\$15.75	\$16.00						
Cost cubic yd. (cts.).....	.10 1/2	.10 3/4	10 5-6						

ARTICLE No. 47.

SUPERINTENDENT, FOREMAN, TIMEKEEPER AND WATER CARRIERS' WAGES FOR ONE
OR MORE

(10 Hours or Less—Basis 125 Cubic Yards)

Wages combined.....	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00
Cost cubic yd. (cts.).....	13-5	14-5	.02	21-5	22-5	23-5	24-5	.03	31-5
Wages combined.....	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost cubic yd. (cts.).....	32-5	33-5	34-5	.04	41-5	42-5	43-5	44-5	.05
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25	\$8.50
Cost cubic yd. (cts.).....	51-5	52-5	53-5	54-5	.06	61-5	62-5	63-5	64-5
Wages combined.....	\$8.75	\$9.00	\$9.25	\$9.50	\$9.75	\$10.00	\$10.25	\$10.50	\$10.75
Cost cubic yd. (cts.).....	.07	71-5	72-5	73-5	74-5	.08	81-5	82-5	83-5
Wages combined.....	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00
Cost cubic yd. (cts.).....	84-5	.09	91-5	92-5	93-5	94-5	.10	101-5	102-5
Wages combined.....	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00	\$15.25
Cost cubic yd. (cts.).....	103-5	104-5	.11	111-5	112-5	113-5	114-5	.12	121-5
Wages combined.....	\$15.50	\$15.75	\$16.00						
Cost cubic yd. (cts.).....	122-5	123-5	124-5						

... TIMEKEEPER AND WATER CARRIERS' WAGES FOR ONE

OR MORE

(10 Hours or Less—Basis 150 Cubic Yards)

Wages combined.....	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00
Cost cubic yd. (cts.).	.01½	.01½	.01½	.01½	1 5-6	.02	.02½	.02½	.02¾
Wages combined.....	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost cubic yd. (cts.).	2 5-6	.03	.03½	.03½	.03½	.03½	3 5-6	.04	.04½
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25	\$8.50
Cost cubic yd. (cts.).	.04½	.04½	.04½	4 5-6	.05	.05½	.05½	.05½	.05¾
Wages combined.....	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00	\$10.25	\$10.50	\$10.75
Cost cubic yd. (cts.).	5 5-6	.06	.06¾	.06¾	.06¾	.06¾	6 5-6	.07½	.07¾
Wages combined.....	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00
Cost cubic yd. (cts.).	.07½	.07¾	7 5-6	.08	.08½	.08½	.08½	.08¾	8 5-6
Wages combined.....	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00	\$15.25
Cost cubic yd. (cts.).	.09	.09½	.09½	.09½	.09½	.09½	9 5-6	.10	.10½
Wages combined.....	\$15.50	\$15.75	\$16.00						
Cost cubic yd. (cts.).	.10½	.10¾	10 5-6						

ARTICLE No. 47.

SUPERINTENDENT, FOREMAN, TIMEKEEPER AND WATER CARRIERS' WAGES FOR ONE
OR MORE

(10 Hours or Less—Basis 125 Cubic Yards)

Wages combined.....	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00
Cost cubic yd. (cts.).....	13-5	14-5	.02	21-5	22-5	23-5	24-5	.03	31-5
Wages combined.....	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost cubic yd. (cts.).....	32-5	33-5	34-5	.04	41-5	42-5	43-5	44-5	.05
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25	\$8.50
Cost cubic yd. (cts.).....	51-5	52-5	53-5	54-5	.06	61-5	62-5	63-5	64-5
Wages combined.....	\$8.75	\$9.00	\$9.25	\$9.50	\$9.75	\$10.00	\$10.25	\$10.50	\$10.75
Cost cubic yd. (cts.).....	.07	71-5	72-5	73-5	74-5	.08	81-5	82-5	83-5
Wages combined.....	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00
Cost cubic yd. (cts.).....	84-5	.09	91-5	92-5	93-5	94-5	.10	101-5	102-5
Wages combined.....	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00	\$15.25
Cost cubic yd. (cts.).....	103-5	104-5	.11	111-5	112-5	113-5	114-5	.12	121-5
Wages combined.....	\$15.50	\$15.75	\$16.00						
Cost cubic yd. (cts.).....	122-5	123-5	124-5						

ARTICLE No. 48.

SUPERINTENDENT, FOREMAN, TIMEKEEPER AND WATER CARRIERS' WAGES FOR ONE

OR MORE

(10 Hours or Less—Basis 150 Cubic Yards)

Wages combined.....	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00
Cost cubic yd. (cts.).....	.01½	.01½	.01½	1 5-6	.02	.02½	.02½	.02½	.02½
Wages combined.....	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost cubic yd. (cts.).....	2 5-6	.03	.03½	.03½	.03½	.03½	3 5-6	.04	.04½
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25	\$8.50
Cost cubic yd. (cts.).....	.04½	.04½	.04½	4 5-6	.05	.05½	.05½	.05½	.05½
Wages combined.....	\$8.75	\$9.00	\$9.25	\$9.50	\$9.75	\$10.00	\$10.25	\$10.50	\$10.75
Cost cubic yd. (cts.).....	5 5-6	.06	.06½	.06½	.06½	.06½	6 5-6	.07½	.07½
Wages combined.....	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00
Cost cubic yd. (cts.).....	.07½	.07½	7 5-6	.08	.08½	.08½	.08½	.08½	8 5-6
Wages combined.....	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00	\$15.25
Cost cubic yd. (cts.).....	.09	.09½	.09½	.09½	.09½	9 5-6	.10	.10½	.10½
Wages combined.....	\$15.50	\$15.75	\$16.00						
Cost cubic yd. (cts.).....	.10½	.10½	10 5-6						

ARTICLE No. 49.

SUPERINTENDENT, FOREMAN, TIMEKEEPER AND WATER CARRIERS' WAGES FOR ONE OR MORE

(10 Hours or Less—Basis 175 Cubic Yards)

Wages combined.....	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00
Cost cubic yd. (cts.).....	.01½	.01¼	.01⅓	.01½	.01½	.01¾	.02	.02½	.02¼
Wages combined.....	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost cubic yd. (cts.).....	.02½	.02½	.02½	.02¾	.03	.03½	.03¼	.03½	.03½
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25	\$8.50
Cost cubic yd. (cts.).....	.03½	.03¾	.04	.04½	.04½	.04¾	.04½	.04½	.04¾
Wages combined.....	8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00	\$10.25	\$10.50	\$10.75
Cost cubic yd. (cts.).....	.05	.05½	.05¼	.05½	.05½	.05½	.05¾	.06	.06½
Wages combined.....	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00
Cost cubic yd. (cts.).....	.06¼	.06¾	.06¾	.06¾	.06¾	.07	.07½	.07¼	7 3-8
Wages combined.....	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00	\$15.25
Cost cubic yd. (cts.).....	.07½	.07½	.07¾	.08	.08½	.08½	.08¾	.08½	.08½
Wages combined.....	\$15.50	\$15.75	\$16.00						
Cost cubic yd. (cts.).....	.08¾	.09	.09½						

SUPERINTENDENT, FOREMAN, TIMEKEEPER AND WATER CARRIERS' WAGES FOR ONE
OR MORE

(10 Hours or Less—Basis 200 Cubic Yards)

Wages combined.....	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00
Cost cubic yd. (cts.).....	.01	.01½	.01¾	.01½	.01¾	.01½	.01¾	.01½	.02
Wages combined.....	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost cubic yd. (cts.).....	.02½	.02¾	.02½	.02¾	.02½	.02¾	.02½	.02¾	.03½
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25	\$8.50
Cost cubic yd. (cts.).....	.03¼	.03½	.03¾	.03½	.03¾	.03½	.03¾	.03½	.04¾
Wages combined.....	\$ 8.75	\$ 9.00	\$ 9.25	\$9.50	\$9.75	\$10.00	\$10.25	\$10.50	\$10.75
Cost cubic yd. (cts.).....	.04¾	.04½	.04¾	.04½	.04¾	.04½	.04¾	.04½	.05½
Wages combined.....	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00
Cost cubic yd. (cts.).....	.05½	.05¾	.05½	.05¾	.05½	.05¾	.05½	.05¾	.06½
Wages combined.....	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00	\$15.25
Cost cubic yd. (cts.).....	.06¾	.06½	.07	.07½	.07¼	.07½	.07½	.07½	.07½
Wages combined.....	\$15.50	\$15.75	\$16.00						
Cost cubic yd. (cts.).....	.07½	.08	.08½						

ARTICLE No. 51.

SUPERINTENDENT, FOREMAN, TIMEKEEPER AND WATER CARRIERS' WAGES FOR ONE OR MORE

(10 Hours or Less—Basis 225 Cubic Yards)

Wages combined.....	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00
Cost cubic yd. (cts.).....	0.8	.01	.01½	.01¾	.01½	.01½	.01½	.01½	.01½
Wages combined.....	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost cubic yd. (cts.).....	.01½	.02	.02½	.02¾	.02½	.02½	.02½	.02½	.02½
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25	\$8.50
Cost cubic yd. (cts.).....	.03	.03	.03½	.03¾	.03½	.03½	.03½	.03½	.03½
Wages combined.....	\$8.75	\$9.00	\$9.25	\$9.50	\$9.75	\$10.00	\$10.25	\$10.50	\$10.75
Cost cubic yd. (cts.).....	.04	.04	.04½	.04¾	.04½	.04½	.04½	.04½	.04½
Wages combined.....	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00
Cost cubic yd. (cts.).....	.05	.05	.05½	.05¾	.05½	.05½	.05½	.05½	.05½
Wages combined.....	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00	\$15.25
Cost cubic yd. (cts.).....	.06	.06	.06½	.06¾	.06½	.06½	.06½	.06½	.06½
Wages combined.....	\$15.50	\$15.75	\$16.00						
Cost cubic yd. (cts.).....	.07	.07	.07½						

ARTICLE NO. 52.

SUPERINTENDENT, FOREMAN, TIMEKEEPER AND WATER CARRIERS' WAGES FOR ONE
OR MORE

(10 Hours or Less—Basis 250 Cubic Yards)

Wages combined.....	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00
Cost cubic yd. (cts.).....	0.8	0.9	.01	1 1-10	1 1-5	1 3-10	1 2-5	.01½	1 3-5
Wages combined.....	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost cubic yd. (cts.).....	1 7-10	1 4-5	1 9-10	.02	2 1-10	2 1-5	2 3-10	2 2-5	.02½
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25	\$8.50
Cost cubic yd. (cts.).....	2 3-5	2 7-10	2 4-5	2 9-10	.03	3 1-10	3 1-5	3 3-10	3 2-5
Wages combined.....	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00	\$10.25	\$10.50	\$10.75
Cost cubic yd. (cts.).....	.03½	3 3-5	3 7-10	3 4-5	3 9-10	.04	4 1-10	4 1-5	4 3-10
Wages combined.....	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00
Cost cubic yd. (cts.).....	4 2-5	.04½	4 3-5	4 7-10	4 4-5	4 9-10	.05	5 1-10	5 1-5
Wages combined.....	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00	\$15.25
Cost cubic yd. (cts.).....	5 3-10	5 2-5	.05½	5 3-5	5 7-10	5 4-5	5 9-10	.06	6 1-10
Wages combined.....	\$15.50	\$15.75	\$16.00						
Cost cubic yd. (cts.).....	6 1-5	6 3-10	6 2-5						

ARTICLE No. 53.

SUPERINTENDENT, FOREMAN, TIMEKEEPER AND WATER CARRIERS' WAGES FOR ONE OR MORE

(10 Hours or Less—Basis 275 Cubic Yards)

Wages combined.....	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00
Cost cubic yd. (cts.).....	0.7	0.8	0.9	.01	1 1-11	1 2-11	1 3-11	1 4-11	1 5-11
Wages combined.....	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost cubic yd. (cts.).....	1 6-11	1 7-11	1 8-11	1 9-11	1 10-11	.02	2 1-11	2 2-11	2 3-11
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25	\$8.50
Cost cubic yd. (cts.).....	2 4-11	2 5-11	2 6-11	2 7-11	2 8-11	2 9-11	2 10-11	.03	3 1-11
Wages combined.....	\$8.75	\$9.00	\$9.25	\$9.50	\$9.75	\$10.00	\$10.25	\$10.50	\$10.75
Cost cubic yd. (cts.).....	3 2-11	3 3-11	3 4-11	3 5-11	3 6-11	3 7-11	3 8-11	3 9-11	3 10-11
Wages combined.....	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00
Cost cubic yd. (cts.).....	.04	4 1-11	4 2-11	4 3-11	4 4-11	4 5-11	4 6-11	4 7-11	4 8-11
Wages combined.....	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00	\$15.25
Cost cubic yd. (cts.).....	4 9-11	4 10-11	.05	5 1-11	5 2-11	5 3-11	5 4-11	5 5-11	5 6-11
Wages combined.....	\$15.50	\$15.75	\$16.00						
Cost cubic yd. (cts.).....	5 7-11	5 8-11	5 9-11						

ARTICLE NO. 34.

SUPERINTENDENT, FOREMAN, TIMEKEEPER AND WATER CARRIERS' WAGES FOR ONE.
OR MORE

(10 Hours or Less—Basis 300 Cubic Yards)

Wages combined.....	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00
Cost cubic yd. (cts.).....	0.6	0.7	0.8	0.9	.01	1 1-12	1 1-6	.01 1/4	01 1/2
Wages combined.....	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost cubic yd. (cts.).....	1 5-12	.01 1/2	1 7-12	.01 3/8	.01 3/4	1 5-6	1 11-12	.02	2 1-12
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25	\$8.50
Cost cubic yd. (cts.).....	.02 1/2	.02 1/4	.02 1/8	2 5-12	.02 1/2	2 7-12	.02 3/8	.02 3/4	2 5-6
Wages combined.....	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00	\$10.25	\$10.50	\$10.75
Cost cubic yd. (cts.).....	2 11-12	.03	3 1-12	.03 1/8	.03 1/4	.03 1/2	3 5-12	.03 1/2	3 7-12
Wages combined.....	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00
Cost cubic yd. (cts.).....	.03 3/8	.03 3/4	3 5-6	13 11-12	.04	4 1-12	.04 1/8	.04 1/4	04 1/2
Wages combined.....	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00	\$15.25
Cost cubic yd. (cts.).....	4 5-12	.04 1/2	4 7-12	.04 3/8	.04 3/4	4 5-6	4 11-12	.05	5 1-12
Wages combined.....	\$15.50	\$15.75	\$16.00						
Cost cubic yd. (cts.).....	.05 1/8	.05 1/4	.05 1/2						

ARTICLE No. 55.

SUPERINTENDENT, FOREMAN, TIMEKEEPER AND WATER CARRIERS' WAGES FOR ONE
OR MORE

(10 Hours or Less—Basis 325 Cubic Yards)

Wages combined.....	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost cubic yd. (cts.).....	1 4-13	1 5-13	1 6-13	1 7-13	1 8-13	1 9-13	1 10-13	1 11-13	1 12-13
Wages combined.....	\$6.50	\$6.75	\$ 7.00	\$7.25	\$7.50	\$7.75	\$ 8.00	\$8.25	\$8.50
Cost cubic yd. (cts.).....	.02	2 1-13	2 2-13	2 3-13	2 4-13	2 5-13	2 6-13	2 7-13	2 8-13
Wages combined.....	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00	\$10.25	\$10.50	\$10.75
Cost cubic yd. (cts.).....	2 9-13	2 10-13	2 11-13	2 12-13	.03	3 1-13	3 2-13	3 3-13	3 4-13
Wages combined.....	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00
Cost cubic yd. (cts.).....	3 5-13	3 6-13	3 7-13	3 8-13	3 9-13	3 10-13	3 11-13	3 12-13	.04
Wages combined.....	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00	\$15.25
Cost cubic yd. (cts.).....	4 1-13	4 2-13	4 3-13	4 4-13	4 5-13	4 6-13	4 7-13	4 8-13	4 9-13
Wages combined.....	\$15.50	\$15.75	\$16.00						
Cost cubic yd. (cts.).....	4 10-13	4 11-13	4 12-13						

SUPERINTENDENT, FOREMAN, TIMEKEEPER AND WATER CARRIERS' WAGES FOR ONE

OR MORE

(10 Hours or Less—Basis 350 Cubic Yards)

Wages combined.....	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50
Cost cubic yd. (cts.).....	.01	1 1-14	1 1-7	1 3-14	1 2-7	1 5-14	1 3-7	.01½	1 4-7
Wages combined.....	\$5.75	\$6.00	\$6.25	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75
Cost cubic yd. (cts.).....	1 9-14	1 5-7	1 11-14	1 6-7	1 13-14	.02	2 1-14	2 1-7	2 3-14
Wages combined.....	\$8.00	\$8.25	\$8.50	\$8.75	\$9.00	\$9.25	\$9.50	\$9.75	\$10.00
Cost cubic yd. (cts.).....	2 2-7	2 5-14	2 3-7	.02½	2 4-7	2 9-14	2 5-7	2 11-14	2 6-7
Wages combined.....	\$10.25	\$10.50	\$10.75	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25
Cost cubic yd. (cts.).....	2 13-14	.03	3 1-14	3 1-7	3 3-14	3 2-7	3 5-14	3 3-7	.03½
Wages combined.....	\$12.50	\$12.75	\$13.00	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50
Cost cubic yd. (cts.).....	3 4-7	3 9-14	3 5-7	3 11-14	3 6-7	3 13-14	.04	4 1-14	4 1-7
Wages combined.....	\$14.75	\$15.00	\$15.25	\$15.50	\$15.75	\$16.00			
Cost cubic yd. (cts.).....	4 3-14	4 2-7	4 5-14	4 3-7	.04½	4 4-7			

OR MORE

(10 Hours or Less—Basis 350 Cubic Yards)

Wages combined.....	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50
Cost cubic yd. (cts.).....	.01	1 1-14	1 1-7	1 3-14	1 2-7	1 5-14	1 3-7	.01½	1 4-7
Wages combined.....	\$5.75	\$6.00	\$6.25	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75
Cost cubic yd. (cts.).....	1 9-14	1 5-7	1 11-14	1 6-7	1 13-14	.02	2 1-14	2 1-7	2 3-14
Wages combined.....	\$8.00	\$8.25	\$8.50	\$8.75	\$9.00	\$9.25	\$9.50	\$9.75	\$10.00
Cost cubic yd. (cts.).....	2 2-7	2 5-14	2 3-7	.02½	2 4-7	2 9-14	2 5-7	2 11-14	2 6-7
Wages combined.....	\$10.25	\$10.50	\$10.75	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25
Cost cubic yd. (cts.).....	2 13-14	.03	3 1-14	3 1-7	3 3-14	3 2-7	3 5-14	3 3-7	.03½
Wages combined.....	\$12.50	\$12.75	\$13.00	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50
Cost cubic yd. (cts.).....	3 4-7	3 9-14	3 5-7	3 11-14	3 6-7	3 13-14	.04	4 1-14	4 1-7
Wages combined.....	\$14.75	\$15.00	\$15.25	\$15.50	\$15.75	\$16.00			
Cost cubic yd. (cts.).....	4 3-14	4 2-7	4 5-14	4 3-7	.04½	4 4-7			

ARTICLE No. 55.

SUPERINTENDENT, FOREMAN, TIMEKEEPER AND WATER CARRIERS' WAGES FOR ONE OR MORE

(10 Hours or Less—Basis 325 Cubic Yards)

Wages combined.....	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost cubic yd. (cts.).....	1 4-13	1 5-13	1 6-13	1 7-13	1 8-13	1 9-13	1 10-13	1 11-13	1 12-13
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25	\$8.50
Cost cubic yd. (cts.).....	.02	2 1-13	2 2-13	2 3-13	2 4-13	2 5-13	2 6-13	2 7-13	2 8-13
Wages combined.....	\$8.75	\$9.00	\$9.25	\$9.50	\$9.75	\$10.00	\$10.25	\$10.50	\$10.75
Cost cubic yd. (cts.).....	2 9-13	2 10-13	2 11-13	2 12-13	.03	3 1-13	3 2-13	3 3-13	3 4-13
Wages combined.....	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00
Cost cubic yd. (cts.).....	3 5-13	3 6-13	3 7-13	3 8-13	3 9-13	3 10-13	3 11-13	3 12-13	.04
Wages combined.....	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00	\$15.25
Cost cubic yd. (cts.).....	4 1-13	4 2-13	4 3-13	4 4-13	4 5-13	4 6-13	4 7-13	4 8-13	4 9-13
Wages combined.....	\$15.50	\$15.75	\$16.00						
Cost cubic yd. (cts.).....	4 10-13	4 11-13	4 12-13						

ARTICLE No. 56.

SUPERINTENDENT, FOREMAN, TIMEKEEPER AND WATER CARRIERS' WAGES FOR ONE

OR MORE

(10 Hours or Less—Basis 350 Cubic Yards)

Wages combined.....	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50
Cost cubic yd. (cts).....	.01	1 1-14	1 1-7	1 3-14	1 2-7	1 5-14	1 3-7	.01½	1 4-7
Wages combined.....	\$5.75	\$6.00	\$6.25	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75
Cost cubic yd. (cts.).....	1 9-14	1 5-7	1 11-14	1 6-7	1 13-14	.02	2 1-14	2 1-7	2 3-14
Wages combined.....	\$8.00	\$8.25	\$8.50	\$8.75	\$9.00	\$9.25	\$9.50	\$9.75	\$10.00
Cost cubic yd. (cts.).....	2 2-7	2 5-14	2 3-7	.02½	2 4-7	2 9-14	2 5-7	2 11-14	2 6-7
Wages combined.....	\$10.25	\$10.50	\$10.75	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25
Cost cubic yd. (cts.).....	2 13-14	.03	3 1-14	3 1-7	3 3-14	3 2-7	3 5-14	3 3-7	.03½
Wages combined.....	\$12.50	\$12.75	\$13.00	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50
Cost cubic yd. (cts.).....	3 4-7	3 9-14	3 5-7	3 11-14	3 6-7	3 13-14	.04	4 1-14	4 1-7
Wages combined.....	\$14.75	\$15.00	\$15.25	\$15.50	\$15.75	\$16.00			
Cost cubic yd. (cts.).....	4 3-14	4 2-7	4 5-14	4 3-7	.04½	4 4-7			

ARTICLE No. 55.

SUPERINTENDENT, FOREMAN, TIMEKEEPER AND WATER CARRIERS' WAGES FOR ONE

OR MORE

(10 Hours or Less—Basis 325 Cubic Yards)

Wages combined.....	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost cubic yd. (cts.).....	1 4-13	1 5-13	1 6-13	1 7-13	1 8-13	1 9-13	1 10-13	1 11-13	1 12-13
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25	\$8.50
Cost cubic yd. (cts.).....	.02	2 1-13	2 2-13	2 3-13	2 4-13	2 5-13	2 6-13	2 7-13	2 8-13
Wages combined.....	\$8.75	\$9.00	\$9.25	\$9.50	\$9.75	\$10.00	\$10.25	\$10.50	\$10.75
Cost cubic yd. (cts.).....	2 9-13	2 10-13	2 11-13	2 12-13	.03	3 1-13	3 2-13	3 3-13	3 4-13
Wages combined.....	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00
Cost cubic yd. (cts.).....	3 5-13	3 6-13	3 7-13	3 8-13	3 9-13	3 10-13	3 11-13	3 12-13	.04
Wages combined.....	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00	\$15.25
Cost cubic yd. (cts.).....	4 1-13	4 2-13	4 3-13	4 4-13	4 5-13	4 6-13	4 7-13	4 8-13	4 9-13
Wages combined.....	\$15.50	\$15.75	\$16.00						
Cost cubic yd. (cts.).....	4 10-13	4 11-13	4 12-13						

ARTICLE No. 56.

SUPERINTENDENT, FOREMAN, TIMEKEEPER AND WATER CARRIERS' WAGES FOR ONE

OR MORE

(10 Hours or Less—Basis 350 Cubic Yards)

Wages combined.....	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50
Cost cubic yd. (cts.).....	.01	1 1-14	1 1-7	1 3-14	1 2-7	1 5-14	1 3-7	.01½	1 4-7

Wages combined.....	\$5.75	\$6.00	\$6.25	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75
Cost cubic yd. (cts.).....	1 9-14	1 5-7	1 11-14	1 6-7	1 13-14	.02	2 1-14	2 1-7	2 3-14

Wages combined.....	\$8.00	\$8.25	\$8.50	\$8.75	\$9.00	\$9.25	\$9.50	\$9.75	\$10.00
Cost cubic yd. (cts.).....	2 2-7	2 5-14	2 3-7	.02½	2 4-7	2 9-14	2 5-7	2 11-14	2 6-7

Wages combined.....	\$10.25	\$10.50	\$10.75	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25
Cost cubic yd. (cts.).....	2 13-14	.03	3 1-14	3 1-7	3 3-14	3 2-7	3 5-14	3 3-7	.03½

Wages combined.....	\$12.50	\$12.75	\$13.00	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50
Cost cubic yd. (cts.).....	3 4-7	3 9-14	3 5-7	3 11-14	3 6-7	3 13-14	.04	4 1-14	4 1-7

Wages combined.....	\$14.75	\$15.00	\$15.25	\$15.50	\$15.75	\$16.00
Cost cubic yd. (cts.).....	4 3-14	4 2-7	4 5-14	4 3-7	.04½	4 4-7

ARTICLE No. 55.

SUPERINTENDENT, FOREMAN, TIMEKEEPER AND WATER CARRIERS' WAGES FOR ONE
OR MORE

(10 Hours or Less—Basis 325 Cubic Yards)

Wages combined.....	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost cubic yd. (cts.).....	1 4-13	1 5-13	1 6-13	1 7-13	1 8-13	1 9-13	1 10-13	1 11-13	1 12-13
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25	\$8.50
Cost cubic yd. (cts.).....	.02	2 1-13	2 2-13	2 3-13	2 4-13	2 5-13	2 6-13	2 7-13	2 8-13
Wages combined.....	\$8.75	\$9.00	\$9.25	\$9.50	\$9.75	\$10.00	\$10.25	\$10.50	\$10.75
Cost cubic yd. (cts.).....	2 9-13	2 10-13	2 11-13	2 12-13	.03	3 1-13	3 2-13	3 3-13	3 4-13
Wages combined.....	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00
Cost cubic yd. (cts.).....	3 5-13	3 6-13	3 7-13	3 8-13	3 9-13	3 10-13	3 11-13	3 12-13	.04
Wages combined.....	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00	\$15.25
Cost cubic yd. (cts.).....	4 1-13	4 2-13	4 3-13	4 4-13	4 5-13	4 6-13	4 7-13	4 8-13	4 9-13
Wages combined.....	\$15.50	\$15.75	\$16.00						
Cost cubic yd. (cts.).....	4 10-13	4 11-13	4 12-13						

ARTICLE No. 56.

SUPERINTENDENT, FOREMAN, TIMEKEEPER AND WATER CARRIERS' WAGES FOR ONE
OR MORE

(10 Hours or Less—Basis 350 Cubic Yards)

Wages combined.....	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50
Cost cubic yd. (cts.).....	.01	1 1-14	1 1-7	1 3-14	1 2-7	1 5-14	1 3-7	.01½	1 4-7
Wages combined.....	\$5.75	\$6.00	\$6.25	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75
Cost cubic yd. (cts.).....	1 9-14	1 5-7	1 11-14	1 6-7	1 13-14	.02	2 1-14	2 1-7	2 3-14
Wages combined.....	\$8.00	\$8.25	\$8.50	\$8.75	\$9.00	\$9.25	\$9.50	\$9.75	\$10.00
Cost cubic yd. (cts.).....	2 2-7	2 5-14	2 3-7	.02½	2 4-7	2 9-14	2 5-7	2 11-14	2 6-7
Wages combined.....	\$10.25	\$10.50	\$10.75	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25
Cost cubic yd. (cts.).....	2 13-14	.03	3 1-14	3 1-7	3 3-14	3 2-7	3 5-14	3 3-7	.03½
Wages combined.....	\$12.50	\$12.75	\$13.00	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50
Cost cubic yd. (cts.).....	3 4-7	3 9-14	3 5-7	3 11-14	3 6-7	3 13-14	.04	4 1-14	4 1-7
Wages combined.....	\$14.75	\$15.00	\$15.25	\$15.50	\$15.75	\$16.00			
Cost cubic yd. (cts.).....	4 3-14	4 2-7	4 5-14	4 3-7	.04½	4 4-7			

ARTICLE No. 55.

SUPERINTENDENT, FOREMAN, TIMEKEEPER AND WATER CARRIERS' WAGES FOR ONE
OR MORE

(10 Hours or Less—Basis 325 Cubic Yards)

Wages combined.....	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost cubic yd. (cts.).....	1 4-13	1 5-13	1 6-13	1 7-13	1 8-13	1 9-13	1 10-13	1 11-13	1 12-13
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25	\$8.50
Cost cubic yd. (cts.).....	.02	2 1-13	2 2-13	2 3-13	2 4-13	2 5-13	2 6-13	2 7-13	2 8-13
Wages combined.....	\$8.75	\$9.00	\$9.25	\$9.50	\$9.75	\$10.00	\$10.25	\$10.50	\$10.75
Cost cubic yd. (cts.).....	2 9-13	2 10-13	2 11-13	2 12-13	.03	3 1-13	3 2-13	3 3-13	3 4-13
Wages combined.....	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00
Cost cubic yd. (cts.).....	3 5-13	3 6-13	3 7-13	3 8-13	3 9-13	3 10-13	3 11-13	3 12-13	.04
Wages combined.....	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00	\$15.25
Cost cubic yd. (cts.).....	4 1-13	4 2-13	4 3-13	4 4-13	4 5-13	4 6-13	4 7-13	4 8-13	4 9-13
Wages combined.....	\$15.50	\$15.75	\$16.00						

ARTICLE No. 56.

SUPERINTENDENT, FOREMAN, TIMEKEEPER AND WATER CARRIERS' WAGES FOR ONE
OR MORE

(10 Hours or Less—Basis 350 Cubic Yards)

Wages combined.....	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50
Cost cubic yd. (cts.).....	.01	1 1-14	1 1-7	1 3-14	1 2-7	1 5-14	1 3-7	.01½	1 4-7
Wages combined.....	\$5.75	\$6.00	\$6.25	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75
Cost cubic yd. (cts.).....	1 9-14	1 5-7	1 11-14	1 6-7	1 13-14	.02	2 1-14	2 1-7	2 3-14
Wages combined.....	\$8.00	\$8.25	\$8.50	\$8.75	\$9.00	\$9.25	\$9.50	\$9.75	\$10.00
Cost cubic yd. (cts.).....	2 2-7	2 5-14	2 3-7	.02½	2 4-7	2 9-14	2 5-7	2 11-14	2 6-7
Wages combined.....	\$10.25	\$10.50	\$10.75	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25
Cost cubic yd. (cts.).....	2 13-14	.03	3 1-14	3 1-7	3 3-14	3 2-7	3 5-14	3 3-7	.03½
Wages combined.....	\$12.50	\$12.75	\$13.00	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50
Cost cubic yd. (cts.).....	3 4-7	3 9-14	3 5-7	3 11-14	3 6-7	3 13-14	.04	4 1-14	4 1-7
Wages combined.....	\$14.75	\$15.00	\$15.25	\$15.50	\$15.75	\$16.00			
Cost cubic yd. (cts.).....	4 3-14	4 2-7	4 5-14	4 3-7	.04½	4 4-7			

ARTICLE No. 55.

INTERINTENDENT, FOREMAN, TIMEKEEPER AND WATER CARRIERS' WAGES FOR ONE OR MORE

(10 Hours or Less—Basis 325 Cubic Yards)

Wages combined..... \$4.25 \$4.50 \$4.75 \$5.00 \$5.25 \$5.50 \$5.75 \$6.00 \$6.25
Cost cubic yd. (cts.)..... 1 4-13 1 5-13 1 6-13 1 7-13 1 8-13 1 9-13 1 10-13 1 11-13 1 12-13

Wages combined..... \$6.50 \$6.75 \$7.00 \$7.25 \$7.50 \$7.75 \$8.00 \$8.25 \$8.50
Cost cubic yd. (cts.)..... .02 2 1-13 2 2-13 2 3-13 2 4-13 2 5-13 2 6-13 2 7-13 2 8-13

Wages combined..... \$8.75 \$9.00 \$9.25 \$9.50 \$9.75 \$10.00 \$10.25 \$10.50 \$10.75
Cost cubic yd. (cts.)..... 2 9-13 2 10-13 2 11-13 2 12-13 .03 3 1-13 3 2-13 3 3-13 3 4-13

Wages combined..... \$11.00 \$11.25 \$11.50 \$11.75 \$12.00 \$12.25 \$12.50 \$12.75 \$13.00
Cost cubic yd. (cts.)..... 3 5-13 3 6-13 3 7-13 3 8-13 3 9-13 3 10-13 3 11-13 3 12-13 .04

Wages combined..... \$13.25 \$13.50 \$13.75 \$14.00 \$14.25 \$14.50 \$14.75 \$15.00 \$15.25
Cost cubic yd. (cts.)..... 4 1-13 4 2-13 4 3-13 4 4-13 4 5-13 4 6-13 4 7-13 4 8-13 4 9-13

Wages combined..... \$15.50 \$15.75 \$16.00
Cost cubic yd. (cts.)..... 4 10-13 4 11-13 4 12-13

SUPERINTENDENT, FOREMAN, TIMEKEEPER AND WATER CARRIERS' WAGES FOR ONE
OR MORE

(10 Hours or Less—Basis 350 Cubic Yards)

Wages combined.....	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50
Cost cubic yd. (cts).....	.01	1 1-14	1 1-7	1 3-14	1 2-7	1 5-14	1 3-7	.01½	1 4-7
Wages combined.....	\$5.75	\$6.00	\$6.25	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75
Cost cubic yd. (cts).....	1 9-14	1 5-7	1 11-14	1 6-7	1 13-14	.02	2 1-14	2 1-7	2 3-14
Wages combined.....	\$8.00	\$8.25	\$8.50	\$8.75	\$9.00	\$9.25	\$9.50	\$9.75	\$10.00
Cost cubic yd. (cts).....	2 2-7	2 5-14	2 3-7	.02½	2 4-7	2 9-14	2 5-7	2 11-14	2 6-7
Wages combined.....	\$10.25	\$10.50	\$10.75	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25
Cost cubic yd. (cts).....	2 13-14	.03	3 1-14	3 1-7	3 3-14	3 2-7	3 5-14	3 3-7	.03½
Wages combined.....	\$12.50	\$12.75	\$13.00	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50
Cost cubic yd. (cts).....	3 4-7	3 0-14	3 5-7	3 11-14	3 6-7	3 13-14	.04	4 1-14	4 1-7
Wages combined.....	\$14.75	\$15.00	\$15.25	\$15.50	\$15.75	\$16.00			
Cost cubic yd. (cts).....	4 3-11	4 2-7	4 5-14	4 3-7	.04½	4 4-7			

ARTICLE No. 57.

SUPERINTENDENT, FOREMAN, TIMEKEEPER AND WATER CARRIERS'
WAGES FOR ONE OR MORE

(10 Hours or Less—Basis 375 Cubic Yards)

Wages combined.....	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75
Cost cubic yd. (cts.).	.01	1 1-15	1 2-15	1 1-5	1 4-15	.01½	1 2-5	1 7-15	1 8-15
Wages combined.....	\$6.00	\$6.25	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00
Cost cubic yd. (cts.).	1 3-5	.01¾	1 11-15	1 4-5	1 13-15	1 14-15	.02	2 1-15	2 2-15
Wages combined.....	\$8.25	\$8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00	\$10.25
Cost cubic yd. (cts.).	2 2-5	2 4-15	.02½	2 2-5	2 7-15	2 8-15	2 3-5	.02¾	2 11-15
Wages combined.....	\$10.50	\$10.75	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50
Cost cubic yd. (cts.).	2 4-5	2 13-15	2 14-15	.03	3 1-15	3 2-15	3 1-5	3 4-15	.03½
Wages combined.....	\$12.75	\$13.00	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50	\$14.75
Cost cubic yd. (cts.).	.03	2-5	.03 7-15	3 8-15	3 3-5	.03¾	3 11-15	3 4-5	3 13-15
Wages combined.....	\$15.00	\$15.25	\$15.50	\$15.75	\$16.00				
Cost cubic yd. (cts.).	.04	4 1-15	4 2-15	4 1-5	4 4-15				

WAGES FOR ONE OR MORE

(10 Hours or Less—Basis 400 Cubic Yards)

Wages combined.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	6.00	\$6.25
Cost cubic yd. (cts.).....	.01	.01½	.01½	.01½	.01¼	.01½	.01½	.01½	.01½	.01½
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25	\$8.50	
Cost cubic yd. (cts.).....	.01½	.01¼	.01½	.01¼	.01½	.01½	.01½	.02	.02½	.02½
Wages combined.....	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00	\$10.25	\$10.50	\$10.75	
Cost cubic yd. (cts.).....	.02½	.02¼	.02¼	.02½	.02¾	.02¾	.02¾	.02¾	.02¾	.02¾
Wages combined.....	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00	
Cost cubic yd. (cts.).....	.02¾	.02¾	.02¾	.02¾	.03	.03¼	.03¼	.03¼	.03¼	.03¼
Wages combined.....	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00	\$15.25	
Cost cubic yd. (cts.).....	.03½	.03½	.03½	.03½	.03½	.03½	.03½	.03½	.03½	.03½
Wages combined.....	\$15.50	\$15.75	\$16.00							
Cost cubic yd. (cts.).....	.03¾	.03¾	.04							

WAGES FOR ONE OR MORE

(Basis 425 Cubic Yards)

Wages combined.....	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost cubic yd. (cts.).....	.01	1 1-17	1 2-17	1 3-17	1 4-17	1 5-17	1 6-17	1 7-17	1 8-17

Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25	\$8.50
Cost cubic yd. (cts.).....	1 9-17	1 10-17	1 11-17	1 12-17	1 13-17	1 14-17	1 15-17	1 16-17	.02

Wages combined.....	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00	\$10.25	\$10.50	\$10.75
Cost cubic yd. (cts.).....	2 1-17	2 2-17	2 3-17	2 4-17	2 5-17	2 6-17	2 7-17	2 8-17	2 9-17

Wages combined.....	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00
Cost cubic yd. (cts.).....	2 10-17	2 11-17	2 12-17	2 13-17	2 14-17	2 15-17	2 16-17	.03	3 1-17

Wages combined.....	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00	\$15.25
Cost cubic yd. (cts.).....	3 2-17	3 3-17	3 4-17	3 5-17	3 6-17	3 7-17	3 8-17	3 9-17	3 10-17

Wages combined.....	\$15.50	\$15.75	\$16.00
Cost cubic yd. (cts.).....	3 11-17	3 12-17	3 13-17

WAGES FOR ONE OR MORE

(Basis 450 Cubic Yards)

Wages combined.....	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost cubic yd. (cts.).....	.01	1 1-18	1 1-9	.01½	1 2-9	1 5-18	.01½	1 7-18
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.50
Cost cubic yd. (cts.).....	1 4-9	1½	1 5-9	1 11-18	.01¾	1 13-18	1 7-9	1 5-6 1 8-9
Wages combined.....	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00	\$10.25	\$10.50 \$10.75
Cost cubic yd. (cts.).....	1 17-18	.02	2 1-18	2 1-9	0.2½	2 2-9	2 5-18	.02½ 2 7-18
Wages combined.....	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50	\$12.75 \$13.00
Cost cubic yd. (cts.).....	2 4-9	.02½	2 5-9	2 11-18	.02¾	2 13-18	2 7-9	2 5-6 2 8-9
Wages combined.....	\$13.25	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00 \$15.25
Cost cubic yd. (cts.).....	2 17-18	.03	3 1-18	3 1-9	.03½	3 2-9	3 5-18	.03½ 3 7-18

Wages combined.....	\$15.50	\$15.75	\$16.00
Cost cubic yd. (cts.).....	3 4-9	.03½	3 5-9

ARTICLE No. 61.

SUPERINTENDENT, FOREMAN, TIMEKEEPER AND WATER CARRIERS'

WAGES FOR ONE OR MORE

(Basis 475 Cubic Yards)

Wages combined.....	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25	\$6.50	\$6.75
Cost cubic yd. (cts.).....	.01	1 1-19	1 2-19	1 3-19	1 4-19	1 5-19	1 6-19	1 7-19	1 8-19

Wages combined.....	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25	\$8.50	\$8.75	\$9.00
Cost cubic yd. (cts.).....	1 9-19	1 10-19	1 11-19	1 12-19	1 13-19	1 14-19	1 15-19	1 16-19	1 17-19

Wages combined.....	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00	\$10.25	\$10.50	\$10.75	\$11.00	\$11.25
Cost cubic yd. (cts.).....	1 18-19	.02	2 1-19	2 2-19	2 3-19	2 4-19	2 5-19	2 6-19	2 7-19

Wages combined.....	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00	\$13.25	\$13.50
Cost cubic yd. (cts.).....	2 8-19	2 9-19	2 10-19	2 11-19	2 12-19	2 13-19	2 14-19	2 15-19	2 16-19

Wages combined.....	\$13.75	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00	\$15.25	\$15.50	\$15.75
Cost cubic yd. (cts.).....	2 17-19	2 18-19	.03	3 1-19	3 2-19	3 3-19	3 4-19	3 5-19	3 6-19

Wages combined.....	\$16.00
Cost cubic yd. (cts.).....	3 7-19

ARTICLE No. 62.

SUPERINTENDENT, FOREMAN, TIMEKEEPER AND WATER CARRIERS'

WAGES FOR ONE OR MORE

(Basis 500 Cubic Yards)

Wages combined.....	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25	\$6.50	\$6.75	\$7.00
Cost cubic yd. (cts.).....	.01	1 1-20	1 1-10	1 3-20	1 1-5	.01¼	1 3-10	1 7-20	1 2-5
Wages combined.....	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25	\$8.50	\$8.75	\$9.00	\$ 9.25
Cost cubic yd. (cts.).....	1 9-20	.01½	1 11-20	1 3-5	1 13-20	1 7-10	.01¾	1 4-5	1 17-20
Wages combined.....	\$ 9.50	\$ 9.75	\$10.00	\$10.25	\$10.50	\$10.75	\$11.00	\$11.25	\$11.50
Cost cubic yd. (cts.).....	1 9-10	1 19-20	.02	2 1-20	2 1-10	2 3-20	2 1-5	.02¼	2 3-10
Wages combined.....	\$11.75	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00	\$13.25	\$13.50	\$13.75
Cost cubic yd. (cts.).....	2 7-20	2 2-5	2 9-20	.02½	2 11-20	2 3-5	2 13-20	2 7-10	.02¾
Wages combined.....	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00	\$15.25	\$15.50	\$15.75	\$16.00
Cost cubic yd. (cts.).....	2 1-5	2 17-20	2 9-10	2 19-20	.03	3 1-20	3 1-10	3 3-20	3 1-5

A knowledge of the foregoing items and prices, enables us to calculate with tolerable accuracy the cost of removing earth. For example, let it be required to ascertain the cost per cubic yard of excavating heavy soil, measured in place and removing it to dump or fill, say an average haul of (1 mile) on basis of (1 cubic yard per load) requiring the earth to be plowed for shoveler ; also using snatch team to assist wagon; out of cellar or pit, on the basis of 100 cubic yards or load of earth per day 10 hours.

Article No. 1—Plowing earth, team and plow at \$5.00, one laborer to assist \$1.25, wages combined \$6.25—table shows.....	2½ ct .
Article No. 4—Loading heavy earth, wages \$1.50 per 10 hours—table shows.....	10 cts.
Article No. 6—Earth hauling 1 mile, wages per team \$5.00 per 10 hours—table shows.....	50 cts.
Article No. 37—Snatch team to assist wagons out of cellar, \$5.00 per 10 hours—table shows.....	5 cts.
Article No. 46—Foreman and water carrier, foreman \$3.00 and water boy \$1.00 combined \$4.00 per day—table shows.....	4 cts.

Actual cost per cubic yard.....	71½ cts.
Profit to be added.	

PROFIT TO THE CONTRACTOR

As the foregoing prices on earth work are given as approximate cost, the contractor must add to these prices his profit, say 10 to 15% according to general conditions of the work, etc.

EARTH HAULING.

Table showing approximately what an average team will travel and number of loads per day with (one cubic yard of earth per load), eight shovellers, sandy or loam soil:

Distance of Haul.	Time to Make Trip	Number of Cubic Yards or Loads.	Time per Day.
1,320 Feet or $\frac{1}{4}$ mile each way.	0 Hours, 22 minutes.	27 Loads	9 Hours, 54 minutes.
2,640 Feet or $\frac{1}{2}$ mile each way.	0 Hours, 34 minutes.	17 Loads	9 Hours, 38 minutes.
3,960 Feet or $\frac{3}{4}$ mile each way.	0 Hours, 46 minutes.	13 Loads.	9 Hours, 58 minutes.
5,280 Feet or 1 mile each way.	0 Hours, 58 minutes.	10 Loads.	9 Hours, 40 minutes.
6,600 Feet or $1\frac{1}{4}$ miles each way.	1 Hour, 10 minutes.	8 Loads.	9 Hours, 20 minutes.
7,920 Feet or $1\frac{1}{2}$ miles each way.	1 Hour, 22 minutes.	7 Loads.	9 Hours, 34 minutes.
9,240 Feet or $1\frac{3}{4}$ miles each way.	1 Hour, 34 minutes.	6 Loads.	9 Hours, 24 minutes.
10,560 Feet or 2 miles each way.	1 Hour, 46 minutes.	5 Loads.	8 Hours, 50 minutes.
11,880 Feet or $2\frac{1}{4}$ miles each way.	1 Hour, 58 minutes.	5 Loads.	9 Hours, 50 minutes.
13,200 Feet or $2\frac{1}{2}$ miles each way.	2 Hours, 10 minutes.	4 Loads.	8 Hours, 40 minutes.
14,520 Feet or $2\frac{3}{4}$ miles each way.	2 Hours, 22 minutes.	4 Loads.	9 Hours, 28 minutes.
15,840 Feet or 3 miles each way.	2 Hours, 34 minutes.	4 Loads.	10 Hours, 16 minutes.
17,160 Feet or $3\frac{1}{4}$ miles each way.	2 Hours, 46 minutes.	3 Loads.	8 Hours, 18 minutes.
18,480 Feet or $3\frac{1}{2}$ miles each way.	2 Hours, 58 minutes.	3 Loads.	8 Hours, 54 minutes.
19,800 Feet or $3\frac{3}{4}$ miles each way.	3 Hours, 10 minutes.	3 Loads.	9 Hours, 30 minutes.
21,120 Feet or 4 miles each way.	3 Hours, 22 minutes.	3 Loads.	10 Hours, 06 minutes.
22,440 Feet or $4\frac{1}{4}$ miles each way.	3 Hours, 34 minutes.	2 Loads.	7 Hours, 08 minutes.
23,760 Feet or $4\frac{1}{2}$ miles each way.	3 Hours, 46 minutes.	2 Loads.	7 Hours, 32 minutes.
25,080 Feet or $4\frac{3}{4}$ miles each way.	3 Hours, 58 minutes.	2 Loads.	7 Hours, 56 minutes.
26,400 Feet or 5 miles each way.	4 Hours, 10 minutes.	2 Loads.	8 Hours, 20 minutes.

A knowledge of the foregoing items and prices, enables us to calculate with tolerable accuracy the cost of removing earth. For example, let it be required to ascertain the cost per cubic yard of excavating heavy soil, measured in place and removing it to dump or fill, say an average haul of (1 mile) on basis of (1 cubic yard per load) requiring the earth to be plowed for shoveler ; also using snatch team to assist wagons out of cellar or pit, on the basis of 100 cubic yards or load of earth per day 10 hours.

Article No. 1—Plowing earth, team and plow at \$5.00, one laborer to assist \$1.25, wages combined \$6.25—table shows.....	2½ ct .
Article No. 4—Loading heavy earth, wages \$1.50 per 10 hours—table shows.....	10 cts.
Article No. 6—Earth hauling 1 mile, wages per team \$5.00 per 10 hours—table shows.....	50 cts.
Article No. 37—Snatch team to assist wagons out of cellar, \$5.00 per 10 hours—table shows.....	5 cts.
Article No. 46—Foreman and water carrier, foreman \$3.00 and water boy \$1.00 combined \$4.00 per day—table shows.....	4 cts.
Actual cost per cubic yard.....	71½ cts.
Profit to be added.	

PROFIT TO THE CONTRACTOR

As the foregoing prices on earth work are given as approximate cost, the contractor must add to these prices his profit, say 10 to 15% according to general conditions of the work, etc.

EARTH HAULING.

Table showing approximately what an average team will travel and number of loads per day with (one cubic yard of earth per load), eight shovellers, sandy or loam soil:

Distance of Haul.	Time to Make Trip	Number of Cubic Yards or Loads.	Time per Day.
1,320 Feet or $\frac{1}{4}$ mile each way.	0 Hours, 22 minutes.	27 Loads	9 Hours, 54 minutes.
2,640 Feet or $\frac{1}{2}$ mile each way.	0 Hours, 34 minutes.	17 Loads	9 Hours, 38 minutes.
3,960 Feet or $\frac{3}{4}$ mile each way.	0 Hours, 46 minutes.	13 Loads.	9 Hours, 58 minutes.
5,280 Feet or 1 mile each way.	0 Hours, 58 minutes.	10 Loads.	9 Hours, 40 minutes.
6,600 Feet or $1\frac{1}{4}$ miles each way.	1 Hour, 10 minutes.	8 Loads.	9 Hours, 20 minutes.
7,920 Feet or $1\frac{1}{2}$ miles each way.	1 Hour, 22 minutes.	7 Loads.	9 Hours, 34 minutes.
9,240 Feet or $1\frac{3}{4}$ miles each way.	1 Hour, 34 minutes.	6 Loads.	9 Hours, 24 minutes.
10,560 Feet or 2 miles each way.	1 Hour, 46 minutes.	5 Loads.	8 Hours, 50 minutes.
11,880 Feet or $2\frac{1}{4}$ miles each way.	1 Hour, 58 minutes.	5 Loads.	9 Hours, 50 minutes.
13,200 Feet or $2\frac{1}{2}$ miles each way.	2 Hours, 10 minutes.	4 Loads.	8 Hours, 40 minutes.
14,520 Feet or $2\frac{3}{4}$ miles each way.	2 Hours, 22 minutes.	4 Loads.	9 Hours, 28 minutes.
15,840 Feet or 3 miles each way.	2 Hours, 34 minutes.	4 Loads.	10 Hours, 16 minutes.
17,160 Feet or $3\frac{1}{4}$ miles each way.	2 Hours, 46 minutes.	3 Loads.	8 Hours, 18 minutes.
18,480 Feet or $3\frac{1}{2}$ miles each way.	2 Hours, 58 minutes.	3 Loads.	8 Hours, 54 minutes.
19,800 Feet or $3\frac{3}{4}$ miles each way.	3 Hours, 10 minutes.	3 Loads.	9 Hours, 30 minutes.
21,120 Feet or 4 miles each way.	3 Hours, 22 minutes.	3 Loads.	10 Hours, 06 minutes.
22,440 Feet or $4\frac{1}{4}$ miles each way.	3 Hours, 34 minutes.	2 Loads.	7 Hours, 08 minutes.
23,760 Feet or $4\frac{1}{2}$ miles each way.	3 Hours, 46 minutes.	2 Loads.	7 Hours, 32 minutes.
25,080 Feet or $4\frac{3}{4}$ miles each way.	3 Hours, 58 minutes.	2 Loads.	7 Hours, 56 minutes.
26,400 Feet or 5 miles each way.	4 Hours, 10 minutes.	2 Loads.	8 Hours, 20 minutes.

EARTH HAULING

Earth hauling from $\frac{1}{4}$ mile to 5 miles (2 cubic yards per load), eight shovelers, sandy or loam soil:

Distance of Haul	Time to Make Trip	Number of Cubic Yards or Loads	Time per Day
1,320 Feet or $\frac{1}{4}$ mile each way.	0 Hour, 28 minutes.	21 Loads, 42 cubic yards.	9 Hours, 48 minutes.
2,640 Feet or $\frac{1}{2}$ mile each way.	0 Hours, 40 minutes.	15 Loads, 30 cubic yards.	10 Hours, 00 minutes.
3,960 Feet or $\frac{3}{4}$ mile each way.	0 Hours, 52 minutes.	11 Loads, 22 cubic yards.	9 Hours, 32 minutes.
5,280 Feet or 1 mile each way.	1 Hour, 04 minutes.	9 Loads, 18 cubic yards.	9 Hours, 36 minutes.
6,600 Feet or $1\frac{1}{4}$ miles each way.	1 Hour, 16 minutes.	8 Loads, 16 cubic yards.	10 Hours, 08 minutes.
7,920 Feet or $1\frac{1}{2}$ miles each way.	1 Hour, 28 minutes.	7 Loads, 14 cubic yards.	10 Hours, 16 minutes.
9,240 Feet or $1\frac{3}{4}$ miles each way.	1 Hour, 40 minutes.	6 Loads, 12 cubic yards.	10 Hours, 00 minutes.
10,560 Feet or 2 miles each way.	1 Hour, 52 minutes.	5 Loads, 10 cubic yards.	9 Hours, 20 minutes.
11,880 Feet or $2\frac{1}{4}$ miles each way.	2 Hours, 04 minutes.	5 Loads, 10 cubic yards.	10 Hours, 20 minutes.
13,200 Feet or $2\frac{1}{2}$ miles each way.	2 Hours, 16 minutes.	4 Loads, 8 cubic yards.	9 Hours, 04 minutes.
14,520 Feet or $2\frac{3}{4}$ miles each way.	2 Hours, 28 minutes.	4 Loads, 8 cubic yards.	9 Hours, 52 minutes.
15,840 Feet or 3 miles each way.	2 Hours, 40 minutes.	3 Loads, 6 cubic yards.	8 Hours, 36 minutes.
17,160 Feet or $3\frac{1}{4}$ miles each way.	2 Hours, 52 minutes.	3 Loads, 6 cubic yards.	8 Hours, 36 minutes.
18,480 Feet or $3\frac{1}{2}$ miles each way.	3 Hours, 04 minutes.	3 Loads, 6 cubic yards.	9 Hours, 12 minutes.
19,800 Feet or $3\frac{3}{4}$ miles each way.	3 Hours, 16 minutes.	3 Loads, 6 cubic yards.	9 Hours, 48 minutes.
21,120 Feet or 4 miles each way.	3 Hours, 28 minutes.	3 Loads, 6 cubic yards.	10 Hours, 24 minutes.
22,440 Feet or $4\frac{1}{4}$ miles each way.	3 Hours, 40 minutes.	2 Loads, 4 cubic yards.	7 Hours, 20 minutes.
23,760 Feet or $4\frac{1}{2}$ miles each way.	3 Hours, 52 minutes.	2 Loads, 4 cubic yards.	7 Hours, 44 minutes.
25,080 Feet or $4\frac{3}{4}$ miles each way.	4 Hours, 04 minutes.	2 Loads, 4 cubic yards.	8 Hours, 08 minutes.
26,400 Feet or 5 miles each way.	4 Hours, 16 minutes.	2 Loads, 4 cubic yards.	8 Hours, 32 minutes.

EARTH HAULING

Earth hauling from $\frac{1}{4}$ mile to 5 miles (3 cubic yards per load), eight shovelers, sandy or loam soil:

Distance of Haul	Time to Make Trip	Number of Cubic Yards or Loads		Time per Day
		No. Loads	No. Yards	
1,320 Feet or $\frac{1}{4}$ mile each way.	0 Hours, 34 minutes.	17	51	9 Hours, 38 minutes.
2,640 Feet or $\frac{1}{2}$ mile each way.	0 Hours, 46 minutes.	13	39	9 Hours, 58 minutes.
3,960 Feet or $\frac{3}{4}$ mile each way.	0 Hours, 58 minutes.	10	30	9 Hours, 40 minutes.
5,280 Feet or 1 mile each way.	1 Hour, 10 minutes.	8	24	9 Hours, 20 minutes.
6,600 Feet or $1\frac{1}{4}$ miles each way.	1 Hour, 22 minutes.	7	21	9 Hours, 34 minutes.
7,920 Feet or $1\frac{1}{2}$ miles each way.	1 Hour, 34 minutes.	6	18	9 Hours, 24 minutes.
9,240 Feet or $1\frac{3}{4}$ miles each way.	1 Hour, 46 minutes.	5	15	8 Hours, 50 minutes.
10,560 Feet or 2 miles each way.	1 Hour, 58 minutes.	5	15	9 Hours, 50 minutes.
11,880 Feet or $2\frac{1}{4}$ miles each way.	2 Hours, 10 minutes.	4	12	9 Hours, 40 minutes.
13,200 Feet or $2\frac{1}{2}$ miles each way.	2 Hours, 22 minutes.	4	12	9 Hours, 28 minutes.
14,520 Feet or $2\frac{3}{4}$ miles each way.	2 Hours, 34 minutes.	4	12	10 Hours, 16 minutes.
15,840 Feet or 3 miles each way.	2 Hours, 46 minutes.	3	9	9 Hours, 18 minutes.
17,160 Feet or $3\frac{1}{4}$ miles each way.	2 Hours, 58 minutes.	3	9	8 Hours, 54 minutes.
18,480 Feet or $3\frac{1}{2}$ miles each way.	3 Hours, 10 minutes.	3	9	9 Hours, 30 minutes.
19,800 Feet or $3\frac{3}{4}$ miles each way.	3 Hours, 22 minutes.	3	9	10 Hours, 06 minutes.
21,120 Feet or 4 miles each way.	3 Hours, 34 minutes.	2	6	7 Hours, 08 minutes.
22,440 Feet or $4\frac{1}{4}$ miles each way.	3 Hours, 46 minutes.	2	6	7 Hours, 32 minutes.
23,760 Feet or $4\frac{1}{2}$ miles each way.	3 Hours, 58 minutes.	2	6	7 Hours, 56 minutes.
25,080 Feet or $4\frac{3}{4}$ miles each way.	4 Hours, 10 minutes.	2	6	8 Hours, 20 minutes.
26,400 Feet or 5 miles each way.	4 Hours, 22 minutes.	2	6	8 Hours, 44 minutes.

COMPARISON TABLE.

Showing the difference between tables on hauling 1, 2 and 3 cubic yards per load at a fixed rate for team per day and the cost per cubic yard:

Table No. 1—Basis 1 cubic yard per load, distance of haul 2 miles, team wages \$5.00—see

table— 5 yards equal.....\$1.00 per yard

Table No. 2—Basis 2 cubic yards per load, distance of haul 2 miles, team wages \$5.00—see

table—10 yards equal..... .50 per yard

Table No. 3—Basis 3 cubic yards per load, distance of haul 2 miles, team wages \$5.00—see

table—15 yards equal. 33½ per yard

You will note on table of 1 cubic yard, 2 miles distance, 5 yards in 8 hours and 50 minutes.

You will note on table of 2 cubic yards, 2 miles distance, 10 yards in 9 hours and 20 minutes.

You will note on table of 3 cubic yards, 2 miles distance, 15 yards in 9 hours and 50 minutes.

EXCAVATING CISTERN.

Table showing capacity, quantity of excavation, brick or stone lining and plastering in cisterns of various diameters for each foot in depth; also the number of bricks and amount of plastering the bottom (for each foot in depth):

Diameter in Feet	Gallons	Perch	Brick	Brick	Square Yards	Amount of Sq. Yards of Plastering	Brick	Square Yards	For this Column use Diameter Digging giving Cubic Yards of Excavation
5	146	.75	115	230	1.74	1.74	148	2.18	.73
6	211	.88	137½	275	2.09	2.09	215	3.14	1.04
7	288	1.00	160	320	2.44	2.44	292	4.27	1.42
8	377	1.13	182½	365	2.79	2.79	382	5.58	1.86
9	476	1.26	205	410	3.14	3.14	483	7.06	2.36
10	587	1.38	230	460	3.49	3.49	596	8.72	2.91
11	710	1.51	250	500	3.84	3.84	722	10.56	3.52
12	846	1.63	275	550	4.10	4.10	859	12.56	4.19
13	992	1.76	295	590	4.54	4.54	1008	14.74	4.92
14	1152	1.88	320	640	4.89	4.89	1170	17.10	5.70
15	1323	2.01	340	680	5.24	5.24	1343	19.63	6.54

A knowledge of the foregoing tables on (HAULING EARTH) at a distance of $\frac{1}{4}$ to 5 miles and return, giving the number of YARDS and LOADS and the time required, enables us to calculate with tolerable accuracy, what a team will haul per day, as shown in tables on basis of ONE, TWO and THREE cubic yards per load.

The author has calculated to keep all teaming as near to the 10 hours work as practical. It is a well known fact that in the majority of large cities, we get about 9 hours teaming in 10 hours. In long hauls, we should figure on getting 9 hours of teaming and paying for 10 hours work. In some localities you are charged for the team's time going and coming from the stable; this depends on the union rules of teamsters, or as the conditions are in the locality where the teaming is to be done.

We may take for example on Table No. 1, hauling one cubic yard per load, at a distance of $2\frac{1}{2}$, $2\frac{3}{4}$ and 3 miles and return, at $2\frac{1}{2}$ miles the table shows it takes 2 hours and 10 minutes to make a trip and 4 loads in 8 hours and 40 minutes, at $2\frac{3}{4}$ miles it takes 2 hours and 22 minutes, or 4 loads in 9 hours and 28 minutes. Hauling the distance of 3 miles the table shows 2 hours and 34 minutes or 4 loads in 10 hours and 16 minutes. We will now figure again on the $2\frac{1}{2}$ mile haul to make 4 loads in 8 hours and 40 minutes, which is 2 hours and 10 minutes per load. To make 5 loads at the same distance would require the teamster to work that day 10 hours and 50 minutes. If the teams are good and roads are mostly level with no bad hills to climb, 5 loads may be made barring accidents and fast driving and a faithful driver. You will note by tables, the farther the distance of haul, the more difficult it is to gain loads and keep to the 10 hours as per day's work, therefore, you have to add this difference to cost per cubic yard and pay your teams accordingly; some contractors pay the teams per cubic yard or load, others pay by the hour or perhaps by the day. Paying by the load or cubic yard as general, gives the contractor the best results, as the teamsters take more interest in their work. The harder they work, the more they gain. To get paid by the day or hour, they can idle time and still get the same pay for it. The great gain in hauling, is loading and hauling as many cubic feet per load as teams can readily haul without being overworked. This depends on the conditions of the road or street on which the teams have to haul over. Large wagon beds should be used as not to allow the earth to be distributed all along the drive. Often we see shovelers trying to load 2 cubic yards of earth on a wagon bed which is intended to hold only $1\frac{1}{2}$ cubic yards. If the wagon beds are not large enough to hold the required amount, enlarge the bed by adding to the sides and ends and then instruct the loaders about the proper height to load.

EXCAVATING EARTH BY DRAG OR WHEEL SCRAPERS which is less expensive than excavating with shovellers and hauling the earth with wagons at a near distance.

Drag Scrapers are used mostly on short hauls and close places, the best advantage around stumps, large rocks, etc.

Wheel Scrapers are used mostly on long hauls, because of holding about three times as much earth per load than the drag and also much better in carrying full loads. Drag Scrapers easily lose their loads by running over uneven roads.

The Wheel Scrapers are constructed of smooth sheet steel boxes, made in various sizes; the smaller box is about 3 feet square by 12 inches deep with capacity of 9 cubic feet when even full. The No. 2 scraper is 3 feet and 2 inches wide, 3 feet 1 inch long and 13½ inches deep with capacity of 12 cubic feet. The No. 3 scraper holds about 16 cubic feet; size of box 3 feet 8 inches wide, 3 feet and 5 inches long and 16 inches deep, one man should be employed to do the loading on the small scrapers and two men on the larger scrapers. Care should be taken by the plowman to have the earth cut clean, as a portion of the furrow uncut by the plow makes a heavier pull on the team in loading. It generally requires a snatch team on wheel scrapers.

THE DRAG SCRAPER IS MADE OF SHEET STEEL BOX IN VARIOUS SIZES with capacity of 3½ to 5½ cubic feet. One team is generally used and an extra man to do the loading. The driver generally does his own dumping at fill. Sandy or black soil can readily be scraped without being plowed.

In some localities, earth taken from cellars, etc., can be disposed of for a very reasonable price, being used for filling and grading low grounds.

If the excavation is of clean sand it can be deposited near building site and used for masonry. Foundations built on sand beds give best results.

ARTICLE 1.

COST OF DRAG SCRAPER WORK

From Pit to dump or fill—Average 3 cubic feet per load.

(55 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.06 $\frac{1}{8}$	.06 $\frac{3}{8}$	.07	.07 $\frac{1}{8}$	.07 $\frac{3}{8}$	.08	.08 $\frac{1}{8}$	.08 $\frac{3}{8}$	.09
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.09 $\frac{1}{8}$	.09 $\frac{3}{8}$	.10	.10 $\frac{1}{8}$					

ARTICLE 2.

(82 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.08	.08 $\frac{1}{8}$	.08 $\frac{3}{8}$	.09	.09 $\frac{1}{8}$	.09 $\frac{3}{8}$	.10	.10 $\frac{1}{8}$	.10 $\frac{3}{8}$
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.11	.11 $\frac{1}{8}$	.11 $\frac{3}{8}$	.12					

ARTICLE 3.

(110 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.09	.09 $\frac{1}{2}$	.10	.10 $\frac{1}{2}$	.11	.11 $\frac{1}{2}$	.12	.12 $\frac{1}{2}$	.13
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.13 $\frac{1}{2}$	.14	.14 $\frac{1}{2}$	.15					

ARTICLE 4.

(137 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	10	10 $\frac{5}{8}$	11 $\frac{1}{4}$	11 $\frac{7}{8}$	12 $\frac{1}{2}$	13 $\frac{1}{8}$	13 $\frac{3}{4}$	14 $\frac{3}{8}$	15
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	15 $\frac{5}{8}$	16 $\frac{1}{4}$	16 $\frac{7}{8}$	17 $\frac{1}{2}$					

COST OF DRAG SCRAPER WORK

ARTICLE 5.

From pit to dump or fill, average 3 cubic feet per load.

(165 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	12	12 $\frac{3}{4}$	13 $\frac{1}{2}$	14 $\frac{1}{4}$	15	15 $\frac{3}{4}$	16 $\frac{1}{2}$	17 $\frac{1}{4}$	18
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	18 $\frac{3}{4}$	19 $\frac{1}{2}$	20 $\frac{1}{4}$	21					

ARTICLE 6.

(192 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	13 $\frac{1}{8}$	14 $\frac{1}{8}$	15	15 $\frac{5}{8}$	16 $\frac{3}{8}$	17 $\frac{1}{2}$	18 $\frac{1}{8}$	19 $\frac{1}{8}$	20
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	20 $\frac{5}{8}$	21 $\frac{3}{8}$	22 $\frac{1}{2}$	23 $\frac{1}{8}$					

ARTICLE 13.

(192 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.10	.10 ⁵ / ₈	.11 ¹ / ₄	.11 ¹ / ₈	.12 ¹ / ₂	.13 ¹ / ₈	.13 ³ / ₄	.14 ³ / ₈	.15
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.15 ⁵ / ₈	.16 ¹ / ₄	.16 ³ / ₈	.17 ¹ / ₂					

ARTICLE 14.

(220 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.11 ¹ / ₂	.12 ¹ / ₈	.13	.13 ³ / ₈	.14 ¹ / ₈	.15	15 5-6	.16 ¹ / ₂	.17 ¹ / ₈
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.18	.18 ³ / ₈	.19 ¹ / ₈	.20					

ARTICLE 15.

(Cost of Drag Scraper work)—capacity of box 5¹/₂ cubic feet, average 5 cubic feet per load, from pit to dump or fill:

(55 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.03 ¹ / ₂	.03 ³ / ₈	.04	.04 ¹ / ₈	.04 ¹ / ₂	.04 ³ / ₈	.05	.05 ¹ / ₈	.05 ¹ / ₂
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.05 ³ / ₈	.06	.06 ¹ / ₈	.06 ¹ / ₂					

ARTICLE 16.

(82 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.05	.05 $\frac{1}{2}$	.05 $\frac{3}{4}$	.06	.06 $\frac{1}{4}$	.06 $\frac{1}{2}$	.06 $\frac{3}{4}$	.07 $\frac{1}{4}$	.07 $\frac{1}{2}$
Team wages 0 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.07 $\frac{1}{4}$	.08 $\frac{1}{4}$	.08 $\frac{1}{2}$	.08 $\frac{3}{4}$					

ARTICLE 17.

(110 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.05 $\frac{1}{4}$	.05 $\frac{1}{2}$	.06	.06 $\frac{1}{4}$	.06 $\frac{1}{2}$	.07	.07 $\frac{1}{4}$	.07 $\frac{1}{2}$	.08
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.08 $\frac{1}{4}$	.08 $\frac{1}{2}$	.09	.09 $\frac{1}{4}$					

ARTICLE 18.

(137 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.06 $\frac{2}{3}$	.07	.07 $\frac{1}{2}$	.07 $\frac{5}{6}$	.08 $\frac{1}{6}$	.03 $\frac{3}{4}$	.09 $\frac{1}{6}$	.09 $\frac{1}{2}$	.10
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.10 $\frac{1}{3}$	.10 $\frac{1}{2}$	.11 $\frac{1}{4}$	.11 $\frac{1}{2}$					

ARTICLE 19.

(165 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.07 $\frac{1}{3}$	.07 $\frac{2}{3}$	.08 $\frac{1}{3}$	.08 $\frac{2}{3}$	.09	.09 $\frac{1}{2}$	.10	.10 $\frac{1}{2}$	.11
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.11 $\frac{1}{3}$	.11 $\frac{2}{3}$	.12 $\frac{1}{4}$	.12 $\frac{1}{2}$					

ARTICLE 20. (192 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.08	.08½	.09	.09½	.10	.10½	.11	.11½	.12
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.12½	.13	.13½	.14					

ARTICLE 21. (220 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.09½	.10	.10½	.11	.11½	.12	.12½	.13	.13½
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.14	.14½	.15	.15½					

ARTICLE 22.

PLOWING EARTH FOR WHEEL AND DRAG SCRAPERS.

(Gravel or loamy earth)—Team, extra man to hold plow:

Wages combined 10 hours day.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	1 1-7	1 3-14	1 2-7	1 5-14	1 3-7	.01½	1 4-7	1 9-14	1 5-7
Wages combined 10 hours day.....	\$6.25	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25
Cost cubic yd. (cts.).....	1 11-14	1 6-7	1 13-14	.02	2 1-14	2 1-7	2 3-14	2 2-7	2 5-14
Wages combined 10 hours day.....	\$8.50	\$8.75	\$9.00	\$9.25	\$9.50	\$9.75	\$10.00		
Cost cubic yd. (cts.).....	2 3-7	.02½	2 4-7	2 9-14	2 4-7	2 5-7	2 6-7		

ARTICLE 23.

PLOWING EARTH, CLAY AND HEAVY SOIL

Wages combined 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	1 3-5	1 7-10	1 4-5	1 9-10	.02	2 1-10	2 1-5	2 3-10	2 2-5
Wages combined 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25
Cost cubic yd. (cts.).....	.02½	2 3-5	2 7-10	2 4-5	2 9-10	.03	3 1-10	3 1-5	3 3-10
Wages combined 10 hours.....	\$8.50	\$8.75	\$9.00	\$9.25	\$9.50	\$9.75	\$10.00		
Cost cubic yd. (cts.).....	3 2-5	.03½	3 3-5	3 7-10	3 4-5	3 9-10	.04		

PLOWING EARTH VERY TOUGH SUCH AS STONEY OR MACADAM ROADS, ETC.

Requiring 4 horses and 2 or 3 men to hold plow.

ARTICLE 24.

Wages combined 10 hours.....	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00
Cost cubic yd. (cts.).....	3 3-7	3 4-7	3 5-7	3 6-7	.04	4 1-7	4 2-7	4 3-7	4 4-7
Wages combined 10 hours.....	\$ 8.25	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00	\$10.25
Cost cubic yd. (cts.).....	4 5-7	4 6-7	.05	5 1-7	5 2-7	5 3-7	5 4-7	5 5-7	5 6-7
Wages combined 10 hours.....	\$10.50	\$10.75	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	
Cost cubic yd. (cts.).....	.06	6 1-7	6 2-7	6 3-7	6 4-7	6 5-7	6 6-7	.07	

ARTICLE 25.

COST OF WHEEL SCRAPER WORK

No. 1 Scraper Capacity, 9 Cubic Feet Will Average About 6 Cubic Feet.

(110 Feet each way).									
Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.05½	.05¾	.06	.06½	.06¾	.07	.07½	.07¾	.08
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.08½	.08¾	.09	.09½					

ARTICLE 26.

(165 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.06¾	.07	.07½	.08	.08½	.08¾	.09	.09½	.10
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.10½	.10 5-6	.11¼	.11¾					

ARTICLE 27.

(220 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.08½	.09	.09½	.10	.10½	.11	.11½	.12	.12½
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.13	.13½	.14	.14½					

ARTICLE 28.

(275 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.10	.10¾	.11¼	.11½	.12½	.13½	.13¾	.14¾	.15
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.15¾	.16¼	.16½	.16¾	.17½				

ARTICLE 29.

(330 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.11¾	.12½	.12¾	.13½	.14¾	.15½	.15¾	.16¾	.17¾
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.18½	.18¾	.19½	.19¾	.20¾				

ARTICLE 30.

(385 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.13½	.14½	.15	.15 5-6	.16¾	.17½	.18½	.19½	.20
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.20 5-6	.21¾	.22½	.22¾	.23½				

ARTICLE 31.

(440 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.14%	.15%	.16%	.17½	.18%	.19¼	.20½	.21	.22¾
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.23%	.24½	.25½	.26%					

ARTICLE 32.

(495 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.16	.17	.18	.19	.20	.21	.22	.23	.24
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.25	.26	.27	.28					

ARTICLE 33.

(550 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.17	.18	.19	.20	.21	.22	.23	.25	.26
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.27	.28	.29	.30					

ARTICLE 34.

(605 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.19	.20	.21	.22	.23	.25	.26	.27	.28
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.29	.31	.32	.33					

ARTICLE 35.

(660 Feet each way). $\frac{1}{8}$ Mile, or $\frac{1}{4}$ Mile Round Trip.

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.21	.22	.23	.25	.26	.27	.28	.30	.31

Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00
Cost cubic yd. (cts.).....	.32	.34	.35	.36

For extra cost of labor helping to load and unload wheel scrapers or drag, see page 30.

For extra cost of snatch team to assist out of pit or cellar, see table on cost.

COST OF WHEEL SCRAPER WORK

No. 2 Scraper, capacity 12 cubic feet will average about 8 cubic feet per load when well loaded.

(110 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.04	$.04\frac{1}{4}$	$.04\frac{1}{2}$	$.04\frac{3}{4}$	.05	$.05\frac{1}{4}$	$.05\frac{1}{2}$	$.05\frac{3}{4}$	.06
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	$.06\frac{1}{4}$	$.06\frac{1}{2}$	$.06\frac{3}{4}$	.07					

ARTICLE 37.

(165 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	$.05\frac{1}{8}$	$.05\frac{3}{8}$	.06	$.06\frac{1}{8}$	$.06\frac{3}{8}$	.07	$.07\frac{1}{8}$	$.07\frac{3}{8}$	.08
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	$.08\frac{1}{8}$	$.08\frac{3}{8}$	.09	$.09\frac{1}{8}$					

(220 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.06 $\frac{1}{4}$	6 $\frac{1}{8}$	.07	.07 $\frac{3}{8}$	.07 $\frac{3}{4}$	.08 $\frac{1}{8}$	.08 $\frac{1}{2}$	.08 $\frac{1}{2}$	.09 $\frac{1}{4}$
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.09 $\frac{5}{8}$	.10	.10 $\frac{3}{8}$	.10 $\frac{3}{4}$					

ARTICLE 39.

(275 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.07 $\frac{3}{8}$	.07 $\frac{7}{8}$	.08 $\frac{3}{8}$	.08 $\frac{7}{8}$	.09 $\frac{3}{8}$	.09 $\frac{1}{2}$	10 $\frac{3}{8}$	.10 $\frac{7}{8}$	.11 $\frac{1}{2}$
Team wages 0 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.11 $\frac{7}{8}$	.12 $\frac{1}{8}$	.12 $\frac{1}{2}$	.13 $\frac{3}{8}$					

ARTICLE 40.

(330 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.08 $\frac{1}{2}$	.09	.09 $\frac{1}{2}$	.10	.10 $\frac{1}{2}$	.11	.11 $\frac{1}{2}$	.12	.12 $\frac{1}{2}$
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.13	.13 $\frac{1}{2}$	.14	.14 $\frac{1}{2}$					

ARTICLE 41.

(385 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.09 $\frac{1}{2}$	.10 $\frac{1}{8}$	.10 $\frac{5}{8}$	.11 $\frac{1}{4}$	.11 $\frac{3}{4}$	.12 $\frac{1}{2}$	.13	.13 $\frac{1}{2}$	.14 $\frac{1}{2}$
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.14 $\frac{5}{8}$	.15 $\frac{1}{4}$	.15 $\frac{3}{4}$	.16 $\frac{3}{8}$					

ARTICLE 42.

(440 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.10½	.11½	.11¾	.12¾	.13	.13½	.14¼	.14½	.15½
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.16½	.16¾	.17¾	.18					

ARTICLE 43.

(495 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.11½	.12	.12 9-16	.13¼	.13½	.14½	.15½	.16	.17¾
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.18½	.18¾	.19¾	.20½					

ARTICLE 44.

(550 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.13½	.14½	.15	15 5-6	.16¾	.17½	.18½	.19½	.20
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.20 5-6	.21¾	.22½	.23½					

ARTICLE 45.

(605 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.14¾	.15¼	.16¼	.17	.17½	.18¾	.19¾	.20¾	.21¾
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.22½	.23½	.24½	.25½					

(660 Feet each way).			
Team wages 10 hours.....	1/8 Mile, or 1/4 Mile Round Trip.		
Cost cubic yd. (cts.).....	\$4.00 \$4.25 \$4.50 \$4.75 \$5.00	\$5.25 \$5.50 \$5.75	\$6.00
	.16 .17 .18 .19 .20	.21 .22 .23	.24
Team wages 10 hours.....			
Cost cubic yd. (cts.).....	\$6.25 \$6.50 \$6.75 \$7.00		
	.25 .26 .27 .28		

NOTE.—If three horses are used to scrapers in place of two horses, combine the cost of extra horse to wages of team, and tables will show cost per cubic yard.

ARTICLE 47.

COST OF WHEEL SCRAPER WORK)

No. 3 Scraper, capacity 16 cubic feet, average about 11 cubic feet at dump.

(110 Feet each way).									
Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd (cts.).....	.02 $\frac{1}{4}$	.02 $\frac{1}{2}$	.03 $\frac{1}{8}$	.03 $\frac{1}{2}$	.03 $\frac{3}{4}$	.03 $\frac{1}{2}$	.03 $\frac{1}{8}$	.04 $\frac{1}{4}$	.04 $\frac{1}{2}$
Team wages 10 hours.....									
Cost cubic yd. (cts.).....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.04 $\frac{1}{4}$	.04 $\frac{1}{2}$	.04 $\frac{3}{4}$	.05					

ARTICLE 48.

(165 Feet each way).										
Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	
Cost cubic yd. (cts.).....	.03½	.03¾	.04	.04¼	.04½	.04¾	.05	.05¼	.05½	
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00						
Cost cubic yd. (cts.).....	.05¾	.06	.06¼	.06½						

ARTICLE 49.

(220 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.04 $\frac{3}{8}$	.04 $\frac{1}{2}$	.05	.05 $\frac{1}{8}$	.05 $\frac{1}{4}$	.05 $\frac{3}{8}$	.06 $\frac{1}{4}$	.06 $\frac{1}{2}$	.06 $\frac{3}{4}$
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.07 $\frac{3}{8}$	.07 $\frac{1}{2}$	.07 $\frac{5}{8}$	.08 $\frac{1}{8}$					

ARTICLE 50.

(275 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.05 $\frac{1}{8}$	.05 $\frac{1}{4}$	.06	.06 $\frac{1}{8}$	.06 $\frac{1}{4}$	.07	.07 $\frac{1}{8}$	.07 $\frac{1}{4}$	.08
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.08 $\frac{1}{8}$	.08 $\frac{1}{4}$	.09	.09 $\frac{1}{8}$					

ARTICLE 51.

(330 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	6 2-13	6 7-13	7 7-13	7 4-13	7 9-13	8 1-13	8 6-13	8 11-13	9 3-13
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	9 8-13	.10	10 5-13	10 10-13					

ARTICLE 52.

(385 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.07	.07 $\frac{1}{8}$	.08	.08 $\frac{1}{8}$	.09	.09 $\frac{1}{8}$	.10	.10 $\frac{1}{8}$	.11
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					

(440 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.08	.08½	.09	.09½	.10	.10½	.11	.11½	.12
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.12½	.13	.13½	.14					

ARTICLE 54.

(495 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.09	.09½	.10	.10½	.11	.11½	.12	.12½	.13
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.13½	.14	.14½	.15					

ARTICLE 55.

(550 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.10	.10½	.11	.11½	.12	.12½	.13	.13½	.14
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.14½	.15	.15½	.16					

ARTICLE 56.

(605 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.11	.11½	.12	.12½	.13	.13½	.14	.14½	.15
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.15½	.16	.16½	.17					

(660 Feet each way).

Team wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	12	12½	13	13½	14	14½	15	15½	16
Team wages 10 hours.....	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	16½	17	17½	18.					

ARTICLE 58.

COST OF HELPERS TO LOAD AND UNLOAD SCRAPERS

Teams not included in the following prices on No. 1 Drag Scraper, capacity 3 1/2 cubic feet.

Combined wages, 1 or 2 men, 10 hrs.	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00
Cost cubic yd. (cts.).	0.6	0.7	0.9	.01½	.01¼	.01¾	.01½	.01½	.01¾
Combined wages, 1 or 2 men, 10 hrs.	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	
Cost cubic yd. (cts.).	.017½	.02	.02½	.02¼	.02¾	.02½	.02½	.02¾	

ARTICLE 59.

No. 2 Drag Scraper, capacity 4 ½ cubic feet.

Combined wages, 1 or 2 men, 10 hrs.	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00
Cost cubic yd. (cts.).....	0.4	0.5	0.6	0.7	0.8	.01	.01½	.01¾	.01%
Combined wages, 1 or 2 men, 10 hrs.	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	
Cost cubic yd. (cts.).....	.01¼	.01½	.01¾	.01%	.01¼	.01½	.01¾	.01%	.01¾

ARTICLE 64.

(COST OF SINGLE TEAM IN SCRAPERS)

Basis No. 3 Wheel Scraper, capacity 16 cubic feet, average of earth, 11 cubic feet.

(55 Feet each way).

Team and drivers wages, 10 hours...	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.01 $\frac{1}{8}$	.01 $\frac{1}{2}$	.01 $\frac{3}{4}$	.02	.02 $\frac{1}{8}$	.02 $\frac{1}{4}$	.02 $\frac{3}{8}$	.02 $\frac{1}{2}$	.02 $\frac{5}{8}$
Team and driver's wages, 10 hours...	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.02 $\frac{3}{8}$	.02 $\frac{1}{2}$	.02 $\frac{5}{8}$	.03					

ARTICLE 65.

(82 Feet each way).

Team and driver's wages, 10 hours..	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.02	.02 $\frac{1}{8}$	.02 $\frac{1}{4}$	.02 $\frac{3}{8}$	.02 $\frac{1}{2}$	.02 $\frac{5}{8}$	.02 $\frac{3}{4}$	.02 $\frac{7}{8}$	.03
Team and driver's wages, 10 hours..	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.03 $\frac{1}{8}$	.03 $\frac{1}{4}$	.03 $\frac{3}{8}$	.03 $\frac{1}{2}$					

ARTICLE 66.

(110 Feet each way).

Team and driver's wages, 10 hours..	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.02 $\frac{1}{2}$	.02 $\frac{5}{8}$	.02 $\frac{3}{4}$	.02 $\frac{7}{8}$	.03	.03 $\frac{1}{8}$	.03 $\frac{1}{4}$	.03 $\frac{3}{8}$	.03 $\frac{1}{2}$
Team and driver's wages, 10 hours..	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.03 $\frac{3}{8}$	.03 $\frac{1}{2}$	.03 $\frac{5}{8}$	.04					

ARTICLE 67.

(137 Feet each way).

Team and driver's wages, 10 hours.. \$4.00 \$4.25 \$4.50 \$4.75 \$5.00 \$5.25 \$5.50 \$5.75 \$6.00
Cost cubic yd. (cts.)..... .03 .03 1/8 .03 1/4 .03 3/8 .03 1/2 .03 5/8 .03 3/4 .03 7/8 .04

Team and driver's wages, 10 hours.. \$6.25 \$6.50 \$6.75 \$7.00

Cost cubic yd. (cts.)..... .04 1/8 .04 1/4 .04 3/8 .04 1/2

ARTICLE 68.

(165 Feet each way).

Team and driver's wages, 10 hours.. \$4.00 \$4.25 \$4.50 \$4.75 \$5.00 \$5.25 \$5.50 \$5.75 \$6.00
Cost cubic yd. (cts.)..... .03 1/2 .03 5/8 .03 3/4 .03 7/8 .04 .04 1/8 .04 1/4 .04 3/8 .04 1/2

Team and driver's wages, 10 hours.. \$6.25 \$6.50 \$6.75 \$7.00

Cost cubic yd. (cts.)..... .04 5/8 .04 3/4 .04 7/8 .05

ARTICLE 69.

COST OF SNATCH TEAM TO SCRAPERS

Basis No. 2 Scrapers, capacity 12 cubic feet, averaging 8 cubic feet per load.

(55 Feet each way).

Team and driver's wages, 10 hours.. \$4.00 \$4.25 \$4.50 \$4.75 \$5.00 \$5.25 \$5.50 \$5.75 \$6.00
Cost cubic yd. (cts.)..... .02 1/8 .02 1/4 .02 3/8 .02 1/2 .02 5/8 .02 3/4 .02 7/8 .03 .03 1/8

Team and driver's wages, 10 hours.. \$6.25 \$6.50 \$6.75 \$7.00

Cost cubic yd. (cts.)..... .03 1/4 .03 3/8 .03 1/2 .03 5/8

ARTICLE 70.

(82 Feet each way).

Team and driver's wages, 10 hours..	\$4.00	\$4.25	\$1.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	2 5-6	.03	.03 $\frac{1}{8}$	.03 $\frac{1}{8}$	.03 $\frac{1}{2}$	.03 $\frac{3}{8}$	3 5-6	.04	.04 $\frac{1}{2}$
Team and driver's wages, 10 hours..	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.04 $\frac{1}{8}$	.04 $\frac{1}{2}$	.04 $\frac{3}{8}$	4 5-6					

ARTICLE 71.

(110 Feet each way).

Team and driver's wages, 10 hours..	\$4.00	\$1.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.03 $\frac{1}{4}$	.03 $\frac{1}{2}$	.03 $\frac{3}{4}$	.04	.04 $\frac{1}{4}$	.04 $\frac{1}{2}$	.04 $\frac{3}{4}$	.05	.05 $\frac{1}{4}$
Team and driver's wages, 10 hours..	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.05 $\frac{1}{2}$	.05 $\frac{3}{4}$	.06	.06 $\frac{1}{4}$					

ARTICLE 71 $\frac{1}{2}$.

(137 Feet each way).

Team and driver's wages, 10 hours..	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	.04	.04 $\frac{1}{4}$	.04 $\frac{1}{2}$	.04 $\frac{3}{4}$	.05	.05 $\frac{1}{4}$	.05 $\frac{1}{2}$	.05 $\frac{3}{4}$	.06
Team and driver's wages, 10 hours..	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.06 $\frac{1}{4}$	.06 $\frac{1}{2}$	.06 $\frac{3}{4}$	.07					

ARTICLE 72. (165 Feet each way).

Team and driver's wages, 10 hours..	\$1.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost cubic yd. (cts.).....	4 4-9	.04½	.05	5 2-9	5 5-9	5 5-6	6 1-9	.06½	.06¾
Team and driver's wages, 10 hours..	\$6.25	\$6.50	\$6.75	\$7.00					
Cost cubic yd. (cts.).....	.07	7 2-9	.07½	7 7-9					

For Superintendent, foreman, timekeeper, water carrier, watchman, etc., wages combined, giving cost per cubic yard, according to the approximate number of cubic yards of earth you expect to excavate per each day, see tables of cost.

EXAMPLE SHOWING COST TO EXCAVATE ONE CUBIC YARD OF EARTH BY WHEEL SCRAPER NO. 3.

Article 23—Plowing clay or heavy soil, team and driver \$5.00, man to hold plow \$2.50 equal \$7.50, table shows per cubic yard.....	3	cts.
Article 50—Wheel Scrapers (275 feet each way), team wages \$5.00, table shows per cubic yard.....	6¾	cts.
Article 63—Man to help load scrapers, \$2.25 per day, one man to unload, \$2.25 per day equals \$4.50, table shows per cubic yard.....	1	cts.
Article 66—Snatch team, 110 feet each way or about, wages \$5.00 per day, table shows per cubic yard.....	3	cts.
Article 60—Foreman \$3.50 and water carriers wages \$1.00 equal \$4.50 per day. Basis 450 cubic yards per day.....	1	cts.

Say 500 cubic yards at 14½ cents equal \$73.33½. Add profit—cost per yard.....14½ cts.
Add contractor's profit.

EACH WAY

We often have more or less of this kind of work; grading around foundations where earth has been deposited in spots, near by the building for grading. Owing to the short distance and of very uneven places, wheelbarrows are used in place of scrapers, as most of the work is done with shovels and transferring the earth from one place to another. Again, we often have excavating to do under buildings where only wheelbarrows can be used. In case of excavation under buildings and the earth is deposited some where on lot and then hauled away by wagons, we must figure the cost as per tables on wheelbarrow work, then add to this the cost of loading and hauling by wagons or by scrapers as the case may be.

Example: We have 100 cubic yards of earth to be dug and hauled 100 feet by wheel barrows, wages \$1.50 per day of 10 hours. Earth is mostly loam, excavating (Art. 81) at \$1.50 per day shows . . . 15 cts.

Wheeling the earth 100 feet to pile or fill, wages \$1.50 per 10 hours (Art. 76), table shows 05 cts.

100 Cubic yards at 20 cents equal \$20.00. Total cost 20 cts.
Contractor's profit say 25% \$ 5.00 equals \$25.00 for the work. Add contractor's profit.

ARTICLE 73. WHEEL BARROWS, COST OF WHEELING THE EARTH ONLY

The following prices are figured on the basis of wheelers being kept steadily engaged 10 hours per day: If the work is crowded and time is lost, double the given prices.

(Distance 25 feet each way).	(2½ Cubic Feet per Load)
Wheeler's wages	\$1.00 \$1.25 \$1.50 \$1.75 \$2.00 \$2.25 \$2.50 \$2.75 \$3.00
Cost cubic yd. (cts.) . . . . .	.01¼ .01¾ .01% .02% .02½ .02¾ .03¼ .03¾ .03¾
Wheeler's wages	\$3.25 \$3.50
Cost cubic yd. (cts.) . . . . .	.04¼ .04¾

ARTICLE 74.

(Distance 50 feet each way).

Wheeler's wages.....	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00
Cost cubic yd. (cts.).....	1 3-7	.02 1/4	2 5-7	.03 1/2	3 4-7	.04	.04 1/2	.04 3/4	5 3-7
Wheeler's wages.....	\$3.25	\$3.50							
Cost cubic yd. (cts.).....	5 6-7	.06 1/4							

ARTICLE 75.

(Distance 75 feet each way).

Wheeler's wages.....	\$1.00	1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00
Cost cubic yd. (cts.).....	2 7-9	.03 1/2	.04 1/2	4 8-9	5 5-9	.06 1/4	.07	.07 3/4	.08 1/2
Wheeler's wages.....	\$3.25	\$3.50							
Cost cubic yd. (cts.).....	9 1-18	9 7-9							

ARTICLE 76.

(Distance 100 feet each way).

Wheeler's wages.....	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00
Cost cubic yd. (cts.).....	.03 1/2	.04 1/2	.05	5 5-6	.06 3/4	.07 1/2	.08 1/2	.09 1/2	.10
Wheeler's wages.....	\$3.25	\$3.50							
Cost cubic yd. (cts.).....	10 5-6	.11 3/4							

(Distance 125 feet each way).

Wheeler's wages.....	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00.
Cost cubic yd. (cts.).....	4 6-11	5 8-11	6 9-11	.07	9 1-11	10 2-11	11 4-11	.12½	13 7-11
Wheeler's wages.....	\$3.25	\$3.50							
Cost cubic yd. (cts.).....	14 8-11	15 10-11							

ARTICLE 78.

(Distance 150 feet each way).

Wheeler's wages.....	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00
Cost cubic yd. (cts.).....	.05	.06¼	.07½	.08¾	.10	.11¼	.12½	.13¾	.15
Wheeler's wages.....	\$3.25	\$3.50							
Cost cubic yd. (cts.).....	.16¼	.17½							

ARTICLE 79.

(Distance 175 feet each way).

Wheeler's wages.....	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00
Cost cubic yd. (cts.).....	.06¼	.07⅞	.09⅜	.11	.12½	.14¼	.15⅝	.17⅝	.18¾
Wheeler's wages.....	\$3.25	\$3.50							
Cost cubic yd. (cts.).....	.20⅝	.21⅞							

COST OF SHOVELING EARTH INTO WHEEL BARROWS

ARTICLE 80.

(Sandy soil).

Shoveler's wages 10 hours.....	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00
Cost cubic yd. (cts.).....	7 1-7	.09	10 5-7	.12½	14 2-7	16 1-14	17 6-7	19 9-14	21 3-7
Shoveler's wages 10 hours.....	\$3.25	\$3.50							
Cost cubic yd. (cts.).....	23 3-14	.25							

ARTICLE 81.

(Loam or black soil).

Shoveler's wages 10 hours.....	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00
Cost cubic yd. (cts.).....	.10	.12½	.15	.17½	.20	.22½	.25	.27½	.30
Shoveler's wages 10 hours.....	\$3.25	\$3.50							
Cost cubic yd. (cts.).....	.32½	.35							

ARTICLE 82.

(Clay and tough earth which has to be picked mostly before loading).

Shoveler's wages 10 hours.....	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00
Cost cubic yd. (cts.).....	14 2-7	17 6-7	21 3-7	.25	28 4-7	32 1-7	35 5-7	39 2-7	42 6-7
Shoveler's wages 10 hours.....	\$3.25	\$3.50							
Cost cubic yd. (cts.).....	46 3-7	.50							

ARTICLE 83.

(Macadam roads, or what is termed hard pan, all required to be picked).

Shoveler's wages 10 hours.....	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00
Cost cubic yd. (cts.).....	.25	.31¼	.37½	.43¾	.50	.56¼	.62½	.68¾	.75

Shoveler's wages 10 hours..... \$3.25 \$3.50

Cost cubic yd. (cts.)..... .81¼ .87½

RULES FOR ESTIMATING CONCRETE WORK

To ascertain the number of cubic yards required for walls, piers, footings, etc., take the length of wall and multiply the same by height and then the required thickness of wall, which will give the number of cubic feet, which, divided by twenty-seven (27) cubic feet, which equals one (1) cubic yard, gives you the number of cubic yards of concrete required in a wall.

EXAMPLE

Say we are to build a wall of concrete, 100 feet in length, 7 feet in height and the wall is to be 24 inches or 2 feet in thickness. Estimated as above mentioned, 100 feet by 7 feet by 2 feet multiplied, equals 1,400 cubic feet; dividing by 27 cubic feet, equals 51 cubic yards and 23 cubic feet over.

CONCRETE

Is a mixture of mortar, with course material as gravel, crushed stone, pebbles, slag, etc. Two or more of these materials or all of them may be used together, as lime or cement paste is the cementing substance in mortar—so is the mortar the cementing substance in concrete.

Lime itself has no adhering power without applying sand or other substance to it.

Cement has adhering power, but requires sand, etc., to get best results. The proportions of cement,

sand and stone are generally measured in parts by a box made for each material, figuring the number of cubic inches of cement contained in sack, then make box with no bottom to it for sand according to specified mixture. If it calls for one part cement, two parts sand and four parts rock, your sand measure would require two times the cubic inches in sack of cement and four times the amount of cement for the rock on some work. Concrete material is allowed to be measured by wheel barrows, say two sacks of cement evens up a wheel barrow, then two wheel barrows of sand and four barrows of rock, which is called one, two and four.

There are various proportions used in making concrete, namely: 1-2-4, 1-2-5, 1-2-6, 1-3-4, 1-3-5, 1-3-6, 1-3-7, 1-4-7, 1-4-8 and 1-4-9 and is mixed by machinery and hand; the last named means, the material is all turned with shovels ready to be deposited in place. This form of mixing is used on small work where only a few cubic yards are required. On large work a concrete machine is used, which mixes more satisfactory and much cheaper per cubic yard. There are various kinds of concrete machines in the market. Some are good and some are not worth the price of setting in place.

MIXING CONCRETE BY HAND

Mixing concrete by the use of shovels, a large platform should be provided made of No. 1, $\frac{1}{4}$ tongued and grooved boards, with 2x4 cleats under the boards. Running opposite the boards, these cleats should be placed not over 30 inches apart in order to make the platform solid. Running the full wheel barrows on the platform requires it to be built solid; if any of the boards are broken, it causes much delay in repairing, therefore build the platform good and strong before using it. The platform should be 14 or 16 feet in length and 8 or 9 feet in width; this gives plenty of room for the workman to mix a large batch of concrete.

MAKING CONCRETE

In laying the boards or floor, use the surfaced side up and lay the boards water tight so as not to allow any of the cement paste to escape. The ground underneath the platform should be well packed.

placed level and as near the place of deposit as possible. Have the sand, rock, cement and water placed on site as convenient as possible.

MIXING

Spread a measured quantity of cement over a measured quantity of sand on the platform. While dry turn with shovels three or four times or until thoroughly mixed, then add sufficient water and turn the mixture again carefully two or three times. The quantity of water added should be sufficient to thoroughly dampen the mass so that it will hold its form when pressed in the hand and when well tamped will have a slight amount of water come to the surface. The gravel and crushed rock should be measured as to the required quantities and immediately spread over the mixed cement and sand, then turn the whole mass together three or four times or until thoroughly mixed. Don't add too much water as it weakens the concrete. The writer believes concrete should never be made in a floating condition. How often we see concrete taken from a platform or machines—more especially the latter—so wet that it will hardly ride in the barrows. It is deposited in trenches and between wooden forms with large knot holes and open joints, allowing the cementing substances to escape from the mass. When the wooden forms are removed, we find large spots or sections practically bare on its surface with the gravel or rock clinging to the inner body. It is said we can plaster it, but when done, it has not the result. Concrete should be deposited immediately after being mixed. Tamp the mixture well while fresh, in place. Concrete should be deposited in layers, 6 or 8 inches thick and of even moisture and density and the surface level and rough to insure good bond with the next layer above; wet all walls with which it has contact.

BUILDING RUNS FOR WHEELING CONCRETE

When concrete is to be deposited in wood forms on exterior walls where the face is to be perfectly smooth above grade, build runs, when convenient, on the face side, as the dumping or depositing side generally gives

the best results, because when dumping from the barrows, the course material generally rolls to the far side and the small material and cementing substances runs toward the dumping side, therefore, the fine material on the depositing side makes the smoother side.

CONCRETE WORK IN FREEZING WEATHER

Concrete and cement work is spoiled if frozen and thawed while setting and injured. If frozen and not thawed before becoming set, to keep mixtures made during freezing weather from injury, use 4 ounces of salt for every degree of temperature less than 30 degrees Fahrenheit to a mixture of 20 gallons of water and 1 pound of salt, to be well dissolved.

SAND, GRAVEL OR BROKEN STONE

Clean, coarse, sharp sand should be used. When found, slate or other weak friable particles or those which have grains coated with scales or humes, this sand should not be used for finish cement work. For concrete, stone and brick work, it can be used, unless it is for fine pressed brick mortar; it should not be used as the particles will cause pops and be noticeable in the joints, more especially in colored mortar. The writer's experience has been that in laying the top coat of cement work, using what was called good, sharp river sand, was found in the finish coat full of pops and other defects. In examining these spots it would be found at each place small coated grains swelled and popped open so bad that the entire finish coat had to be removed and re-laid with other sand, by taking up the top coat or finish. We know it never gives the best results. In fact, some architects or superintendents will insist on all the work taken up, including the concrete bed or base. As the finish coat should be laid one-half to one hour after the concrete has been laid, this depends on the condition of the weather. Warm weather the cement sets up quicker. To re-lay the top coat on concrete that has partly set or become hard, remove the top finish down to the concrete, then use a sharp pointed tool on the top surface of concrete making it rough as possible so as to get a good bond to the top coat, use a good

stiff broom or brush sweeping every particle of loose material from the concrete, then wash it well with water and proceed with new coat. By using a suitable sand for the finish, in order to save trouble on this class of work, before starting, examine the sand and if necessary inquire from others who do this kind of work, what sand is used by them. The sand as above mentioned is also bad for plastering. Great care should be taken in selecting the very best for all classes of work. Very fine sand is not good, especially what is termed quick sand. The sharper and coarser the sand the better, provided it is clean, free from dirt, etc.

For cement finish work, the sand should be screened through a fine sieve or screen as not to have any gravel or other coarse material in it.

Gravel should be clean and coarse.

Crushed rock should be in size as to pass through a 2-inch diameter ring, unless otherwise specified and be free as possible from stone dust.

These materials should all be unloaded on a plank platform or a paved floor as not to allow dirt, etc., to be shoveled into the material. Besides it is a great saving in time and money to have it in condition to be easily shoveled. To shovel rock laying on ground is very trying to the workman and should never be allowed when plank can be provided.

CEMENT

Portland cement is a compound consisting of chemically combined lime, silica and alumina, produced by a semifusion of a perfect and intimate mixture of calcareous and argillaceous material.

Hydraulic or natural is a cheaper cement, made by calcining and grinding a limestone containing enough of clay matter to make it.

Table No. 1—Showing the number of men approximately should be used to a full crew of concreters,

Mixing the concrete with shovellers on a large platform, making the mixture one part of cement, two parts of sand, four parts crushed rock and the distance of 100 feet from platform to deposit for wheelers of concrete:

- 4 Men on platform to turn or mix the material.
- 2 Men on platform to supply cement and water, etc.
- 2 Men wheeling sand to the platform.
- 3 Men wheeling crushed rock or gravel to platform.
- 2 Men to tamp concrete, build runs for wheelers, etc.
- 1 Man to load concrete into wheel barrows, large shovels.
- 3 Men to wheel concrete from platform to deposit 100 feet each way.
- 17 Men per crew, will say wages per man is \$1.50 per day times 17 equals \$25.50 per day's expense.

We will say the four mixers will turn over 24 cubic yards per day of 10 hours, therefore 24 divided into \$25.50 equals \$1.06 $\frac{1}{4}$ per cubic yard in place.

If the concrete can be deposited from the platform by moving same along the trenches or walls, then the three concrete wheelers can be deducted from the above table, which then will make a crew of fourteen men. 14 times 150 equals \$21.00 divided by 24 cubic yards equals 87 $\frac{1}{2}$ cents per cubic yard in place. Superintendent, foreman, timekeeper and water carriers' wages to be added and divided by 24 cubic yards.

As the time for the mixing is practically the guide for the labor and cost of same for concrete, we assume that even men have to be employed on the mixing board, either two or four, in other words, in pairs. We therefore should figure on using four turners or mixers on the platform, especially on work requiring a number of cubic yards. If a contractor has only a few yards to deposit, then he should not try to employ a full crew. If only a few men are employed by the contractor and it is to use these men on some small piece of concrete work, you will find these men will turn out in proportion practically the same cost per cubic yard, providing men on concreting, one man waits for the other to get the sand or the rock, whereby on a full crew each man

has his part to attend to. We will take as a basis of four men on the mixing board and these four mixers will make 24 cubic yards of concrete in 10 hour's work. We then must figure on the handiness of the material to supply these mixers. We will need one or two men on the sand, one or two men to furnish cement, water, etc., from two to four men on the crushed rock, one or two men to tamp, etc., one or two men to load concrete in wheel barrows, three or four men to wheel concrete. We must figure on only about 24 cubic yards to handle in a day's work, therefore, we must figure on only enough men at each branch to handle these 24 cubic yards.

ARTICLE 1.

APPROXIMATE COST TO MIX AND DEPOSIT CONCRETE BY HAND

(8, 9 and 10 Hours per Day)

89 Allowing four good concrete turners on platform as per table No. 1 and increasing the number of men required as needed or as to the contractor's judgment, see cost on table No. 1.

Mixture—One part cement, two parts sand and four parts of crushed rock or gravel.

Wages, man 10 hours.....	\$ 1.00	\$ 1.25	\$ 1.50	\$ 1.75	\$ 2.00	\$ 2.25	\$ 2.50	\$ 2.75	\$ 3.00
Wages combined (14 men).....	\$14.00	\$17.50	\$21.00	\$24.50	\$28.00	\$31.50	\$35.00	\$38.50	\$42.00
Cost cubic yd. (cts.).....	.59	.73	.88	1.02	1.17	1.32	1.46	1.61	1.75
Wages, man 10 hours.....	\$ 3.25	\$ 3.50	\$ 3.75	\$ 4.00	\$ 4.25	\$ 4.50			
Wages combined (14 men).....	\$45.50	\$49.00	\$52.50	\$56.00	\$59.50	\$63.00			
Cost cubic yd. (cts.).....	1.90	2.04	2.19	2.33	2.48	2.63			

The above prices are on the basis of depositing concrete from platform. No concrete wheelers re-

ARTICLE 2.

Wages, man 10 hours.....	\$ 1.00	\$ 1.25	\$ 1.50	\$ 1.75	\$ 2.00	\$ 2.25	\$ 2.50	\$ 2.75	\$ 3.00
Wages combined (15 men).....	\$15.00	\$18.75	\$22.50	\$26.25	\$30.00	\$33.75	\$37.50	\$41.25	\$45.00
Cost cubic yd. (cts.).....	.63	.78	.94	1.10	1.25	1.41	1.56	1.72	1.88

Wages, man 10 hours.....	\$ 3.25	\$ 3.50	\$ 3.75	\$ 4.00	\$ 4.25	\$ 4.50
Wages combined (15 men).....	\$48.75	\$52.50	\$56.25	\$60.00	\$63.75	\$67.50
Cost cubic yd. (cts.).....	2.04	2.19	2.35	2.50	2.66	2.82

The above prices are on the basis of deposit being close to mixing board, but some extra distance as to add one extra man to shovel concrete which means two men in all to deposit.

ARTICLE 3.

Wages, man 10 hours.....	\$ 1.00	\$ 1.25	\$ 1.50	\$ 1.75	\$ 2.00	\$ 2.25	\$ 2.50	\$ 2.75	\$ 3.00
Wages combined (16 men).....	\$16.00	\$20.00	\$24.00	\$28.00	\$32.00	\$36.00	\$40.00	\$44.00	\$48.00
Cost cubic yd. (cts.).....	.67	.84	1.01	1.13	1.34	1.51	1.67	1.84	2.05

Wages, man 10 hours.....	\$ 3.25	\$ 3.50	\$ 3.75	\$ 4.00	\$ 4.25	\$ 4.50
Wages combined (16 men).....	\$52.00	\$56.00	\$60.00	\$64.00	\$68.00	\$72.00
Cost cubic yd. (cts.).....	2.17	2.34	2.51	2.67	2.84	3.01

The above prices are on the basis of wheeling concrete 50 feet from platform to deposit.

ARTICLE 4.

Wages, man 10 hours.....	\$ 1.00	\$ 1.25	\$ 1.50	\$ 1.75	\$ 2.00	\$ 2.25	\$ 2.50	\$ 2.75	\$ 3.00
Wages combined (17 men).....	\$17.00	\$21.25	\$25.50	\$29.75	\$34.00	\$38.25	\$42.50	\$46.75	\$51.00
Cost cubic yd. (cts.).....	.70	.89	1.07	1.24	1.42	1.60	1.78	1.95	2.13
Wages, man 10 hours.....	\$ 3.25	\$ 3.50	\$ 3.75	\$ 4.00	\$ 4.25	\$ 4.50			
Wages combined (17 men).....	\$55.25	\$59.50	\$63.75	\$68.00	\$72.25	\$76.50			
Cost cubic yd. (cts.).....	2.31	2.48	2.66	2.84	3.02	3.19			

The above prices are on the basis of three men wheeling concrete 100 feet from platform to deposit.

ARTICLE 5.

(9 Hours per day's work).

Wages, man 9 hours.....	\$ 1.00	\$ 1.25	\$ 1.50	\$ 1.75	\$ 2.00	\$ 2.25	\$ 2.50	\$ 2.75	\$ 3.00
Wages combined (14 men).....	\$14.00	\$17.50	\$21.00	\$24.50	\$28.00	\$31.50	\$35.00	\$38.50	\$42.00
Cost cubic yd. (cts.).....	.64	.76	.96	1.12	1.28	1.44	1.60	1.76	1.91
Wages, man 9 hours.....	\$ 3.25	\$ 3.50	\$ 3.75	\$ 4.00	\$ 4.25	\$ 4.50			
Wages combined (14 men).....	\$45.50	\$49.00	\$52.50	\$56.00	\$59.50	\$63.00			
Cost cubic yd. (cts.).....	2.07	2.23	2.39	2.55	2.71	2.87			

The above prices are on the basis of depositing concrete from platform. No concrete wheelers required.

ARTICLE 6.

(9 Hours per days' work).

Wages, man 9 hours.....	\$1.00	\$ 1.25	\$ 1.50	\$ 1.75	\$ 2.00	\$ 2.25	\$ 2.50	\$ 2.75	\$ 3.00
Wages combined (15 men).....	15.00	18.75	22.50	26.25	30.00	33.75	37.50	41.25	45.00
Cost cubic yd. (cts.).....	.68	.85	.02	1.19	1.36	1.53	1.70	1.87	2.04

Wages, man 9 hours.....	\$3.25	\$ 3.50	\$ 3.75	\$ 4.00	\$ 4.25	\$ 4.50
Wages combined (15 men).....	48.75	52.50	56.25	60.00	63.75	67.50
Cost cubic yd. (cts.).....	2.21	2.38	2.55	2.72	2.89	3.06

The above prices are on the basis of adding one man, which makes two shoveling concrete from platform.

ARTICLE 7.

(9 Hours per days' work).

Wages, man 9 hours.....	\$1.00	\$ 1.25	\$ 1.50	\$ 1.75	\$ 2.00	\$ 2.25	\$ 2.50	\$ 2.75	\$ 3.00
Wages combined (16 men).....	16.00	20.00	24.00	28.00	32.00	36.00	40.00	44.00	48.00
Cost cubic yd. (cts.).....	.73	.91	1.10	1.28	1.46	1.64	1.82	2.01	2.19

Wages, man 9 hours.....	\$3.25	\$ 3.50	\$ 3.75	\$ 4.00	\$ 4.25	\$ 4.50
Wages combined (16 men).....	52.00	56.00	60.00	64.00	68.00	72.00
Cost cubic yd. (cts.).....	2.37	2.55	2.73	2.91	3.10	3.28

(9 Hours per days' work).

The above prices are on basis of wheeling concrete 50 feet.

Wages, man 9 hours.....	\$1.00	\$ 1.25	\$ 1.50	\$ 1.75	\$ 2.00	\$ 2.25	\$ 2.50	\$ 2.75	\$ 3.00
Wages combined (17 men).....	17.00	21.25	25.50	29.75	34.00	38.25	42.50	46.75	51.00
Cost cubic yd. (cts.).....	.78	.97	1.16	1.36	1.55	1.74	1.94	2.13	2.32
Wages, man 9 hours.....	\$ 3.25	\$ 3.50	\$ 3.75	\$ 4.00	\$ 4.25	\$ 4.50			
Wages combined (17 men).....	55.25	59.50	63.75	68.00	72.25	76.50			
Cost cubic yd. (cts.).....	2.52	2.71	2.90	3.10	3.29	3.48			

The above prices are for wheeling concrete 100 feet from the platform.

ARTICLE 9.

(8 Hours per days' work).

Wages, man 8 hours.....	\$ 1.00	\$ 1.25	\$ 1.50	\$ 1.75	\$ 2.00	\$ 2.25	\$ 2.50	\$ 2.75	\$ 3.00
Wages combined (14 men).....	14.00	17.50	21.00	24.50	28.00	31.50	35.00	38.50	42.00
Cost cubic yd. (cts.).....	.71	.88	1.06	1.23	1.41	1.58	1.76	1.93	2.11
Wages, man 8 hours	\$ 3.25	\$ 3.50	\$ 3.75	\$ 4.00	\$ 4.25	\$ 4.50			
Wages combined (14 men).....	45.50	49.00	52.50	56.00	59.50	63.00			
Cost cubic yd. (cts.).....	2.28	2.46	2.63	2.81	2.98	3.16			

These prices are on the basis of shoveling concrete from platform, no wheelers required.

ARTICLE 10.

COST TO MIX AND DEPOSIT CONCRETE BY HAND

(8 Hours per days' work)

Wages, man 8 hours.....	\$ 1.00	\$ 1.25	\$ 1.50	\$ 1.75	\$ 2.00	\$ 2.25	\$ 2.50	\$ 2.75	\$ 3.00
Wages combined (15 men).....	15.00	18.75	22.50	26.25	30.00	33.75	37.50	41.25	45.00
Cost cubic yd. (cts.).....	.76	.94	1.13	1.32	1.51	1.69	1.88	2.07	2.26

Wages, man 8 hours.....	\$ 3.25	\$ 3.50	\$ 3.75	\$ 4.00	\$ 4.25	\$ 4.50
Wages combined (15 men).....	48.75	52.50	56.25	60.00	63.75	67.50
Cost cubic yd. (cts.).....	2.44	2.63	2.82	3.01	3.19	3.38

The above prices are on the basis of deposit being some distance from platform, adding an extra shoveler.

ARTICLE 11.

Wages, man 8 hours.....	\$ 1.00	\$ 1.25	\$ 1.50	\$ 1.75	\$ 2.00	\$ 2.25	\$ 2.50	\$ 2.75	\$ 3.00
Wages combined (16 men).....	16.00	20.00	24.00	28.00	32.00	36.00	40.00	44.00	48.00
Cost cubic yd. (cts.).....	.81	1.01	1.21	1.41	1.61	1.81	2.01	2.21	2.41

Wages, man 8 hours.....	\$ 3.25	\$ 3.50	\$ 3.75	\$ 4.00	\$ 4.25	\$ 4.50
Wages combined (16 men).....	52.00	56.00	60.00	64.00	68.00	72.00
Cost cubic yd. (cts.).....	2.61	2.81	3.01	3.21	3.41	3.61

ARTICLE 12.

Wages, man 8 hours.....	\$ 1.00	\$ 1.25	\$ 1.50	\$ 1.75	\$ 2.00	\$ 2.25	\$ 2.50	\$ 2.75	\$ 3.00
Wages combined (17 men).....	17.00	21.25	25.50	29.75	34.00	38.25	42.50	46.75	51.00
Cost cubic yd. (cts.).....	.86	1.07	1.28	1.49	1.71	1.92	2.13	2.34	2.56
Wages, man 8 hours.....	\$ 3.25	\$ 3.50	\$ 3.75	\$ 4.00	\$ 4.25	\$ 4.50			
Wages combined (17 men).....	55.25	59.50	63.75	68.00	72.25	76.50			
Cost cubic yd. (cts.).....	2.77	2.98	3.19	3.41	3.62	3.83			

The above prices are on the basis of wheeling concrete 100 feet to deposit.

CONCRETE MIXING WITH MACHINE

There are several styles of concrete mixers made, namely, the batch mixers, continuous mixers, the cube mixers, double-cone mixers. The continuous mixers have a revolving worm which stir up the materials as fast as it is delivered, meaning a continuous flow of concrete being discharged. The gravity mixes the materials by the work of large swinging steel plates constructed to the inner side of drum. Batch mixers are made in three sizes— $\frac{1}{2}$ yard, $\frac{3}{4}$ yard, and 1 yard. It is generally allowed $2\frac{1}{2}$ to 3 minutes from the time it is charged and discharged in other words, from the time the materials are being thrown in the mixer, until it is emptied into wheel barrows. This is counting on having enough of wheelers to receive and deposit the concrete without delays. We will say the batch mixers turns out a batch of concrete every 3 minutes, and in 10-hours per day there are 600 minutes, divided by 3 minutes equals 200 batches in 10 hours. The $\frac{1}{2}$ yard machine at 200 batches equals 100 cubic yards per 10-hour days; $\frac{3}{4}$ yard equals 150 cubic yards; 1 yard batch equals 200 cubic yards per 10 hours.

The writer's experience has been that few machines turn out the quantity of concrete that is claimed by their manufacturers, even though the material is handy and a full crew of workmen, not allowing the

machine to be idle and working it at full speed during the day's work. Therefore we must consider what kind of machine is best to purchase or use. The reputation of the machine is to be considered, see one of the same make while at work. A great many machines in the market are poorly constructed, not being built to wear and stand the strain it is asked to do. The castings are light and perhaps full of flaws, and when the machine is started to work, having a large force of workmen stationed at their various places, everything running nicely, suddenly the machine comes to a halt. It is examined only to find something about it broken. It is discovered this casting can only be replaced by sending to the manufacturer, perhaps a great many miles away. The machine is at a standstill. Your workmen are idle, perhaps your work is entirely shut down on account of this breakage. Great care should be taken in caring for a machine, by keeping it well cleaned, not to allow it to become clogged, keeping all bolts well tightened, and well oiled if required, an experienced man should have the machine in charge.

Table No. 1—Showing approximately the number of men and their positions required to run a concrete mixer. Capacity $\frac{1}{2}$ cubic yard per batch. Mixture 1-2-4. Basis of material being 50 to 60 feet from machine and concrete wheeled from machine to deposit, 150 feet or less.

- 2 men to feed hopper, cement, sand, rock or gravel.
- 1 man to supply cement.
- 1 man to dump concrete from machine.
- 2 men to supply sand to machine.
- 4 men to supply rock or gravel.
- 2 men to tamp concrete, etc.
- 2 men to build runways, etc.
- 5 men to wheel concrete from machine to deposit, averaging 150 feet.

— 10 men to a crew

TABLE NO. 2.

(Mixture 1-3-5).

- 2 men to feed hopper cement, sand, rock or gravel.
- 1 man to supply cement.
- 1 man to dump concrete from machine.
- 3 men to supply sand to machine.
- 5 men to supply rock or gravel.
- 2 men to tamp concrete, etc.
- 2 men to build runways, etc.
- 6 men to wheel concrete from machine to deposit, 150 feet.

22 men to a crew.

TABLE NO. 3.

Double batch machine, capacity 1 cubic yard, 2 cement, 4 sand, 8 rock. Basis 1-2-4.

- 2 men to feed hopper cement, sand, rock or gravel.
- 2 men to supply cement.
- 1 man to dump concrete from machine.
- 4 men to supply sand to machine.
- 8 men to supply rock or gravel.
- 2 men to tamp concrete, etc.
- 2 men to build runways, etc.
- 8 men to wheel concrete from machine to deposit, 150 feet.

29 men to a crew.

TABLE No. 4.

Double batch of mixture. 1-3-5 equals (2-6-10)
 2 men to feed hopper cement, sand, rock or gravel.
 2 men to supply cement.
 1 man to dump concrete from machine.
 6 men to supply sand to machine.
 10 men to supply rock or gravel.
 3 men to tamp concrete, etc.
 2 men to build runways, etc.
 9 men to wheel concrete from machine to deposit, 150 feet.

35 men to a crew.

ARTICLE 13.

Labor cost of machine mixed concrete in place. Mixture 1-2-4. Ten hours per day. Two sacks of cement equals one wheel barrow. Two wheel barrows sand. Four wheel barrows rock or gravel.

Wages, man 10 hours.....	\$ 1.00	\$ 1.25	\$ 1.50	\$ 1.75	\$ 2.00	\$ 2.25	\$ 2.50	\$ 2.75	\$ 3.00
Wages combined (19 men).....	19.00	23.75	28.50	33.25	38.00	42.75	47.50	52.25	57.00
Cost cubic yd. (cta.).....	.31	.39	.47	.55	.63	.71	.79	.87	.95

Wages, man 10 hours.....	\$ 3.25	\$ 3.50	\$ 3.75	\$ 4.00	\$ 4.25	\$ 4.50
Wages combined (19 men).....	61.75	66.50	71.25	76.00	80.00	84.75

ARTICLE 14.

Labor cost of machine mixed concrete in place. Mixture 1-3-5. Ten hours per day. Two sacks of cement equals one wheel barrow. Three wheel barrows sand. Five wheel barrows rock or gravel.

Wages, man 10 hours.....	\$ 1.00	\$ 1.25	\$ 1.50	\$ 1.75	\$ 2.00	\$ 2.25	\$ 2.50	\$ 2.75	\$ 3.00
Wages combined (22 men).....	22.00	27.50	33.00	38.50	44.00	49.50	55.00	60.50	66.00
Cost cubic yd. (cts.).....	.29	.36	.44	.51	.58	.66	.73	.80	.88

Wages, man 10 hours.....	\$ 3.25	\$ 3.50	\$ 3.75	\$ 4.00	\$ 4.25	\$ 4.50
Wages combined (22 men).....	71.50	77.00	82.50	88.00	93.50	99.00
Cost cubic yd. (cts.).....	.95	1.02	1.10	1.17	1.24	1.32

ARTICLE 15.

Labor cost of machine mixed concrete in place. Proportions 1-2-4. Doubling batch. Four sacks cement equals two wheel barrows. Four wheel barrows sand. Eight wheel barrows rock.

Wages, man 10 hours.....	\$ 1.00	\$ 1.25	\$ 1.50	\$ 1.75	\$ 2.00	\$ 2.25	\$ 2.50	\$ 2.75	\$ 3.00
Wages combined (29 men).....	29.00	36.25	43.50	50.75	58.00	65.25	72.50	79.75	87.00
Cost cubic yd. (cts.).....	.24	.30	.36	.42	.48	.54	.60	.66	.72

Wages, man 10 hours.....	\$ 3.25	\$ 3.50	\$ 3.75	\$ 4.00	\$ 4.25	\$ 4.50
Wages combined (29 men).....	94.25	101.50	108.75	116.00	123.25	130.50
Cost cubic yd. (cts.).....	.78	.84	.90	.96	1.02	1.08

ARTICLE 16.

Capacity of machine one cubic yard. Labor cost of machine mixed concrete in place. Proportions 1-3-5. Double batch. Four sacks cement equals two wheel barrows. Six wheel barrows sand. Ten wheel barrows rock.

Wages, man 10 hours.....	\$ 1.00	\$ 1.25	\$ 1.50	\$ 1.75	\$ 2.00	\$ 2.25	\$ 2.50	\$ 2.75	\$ 3.00
Wages combined (35 men).....	35.00	43.75	52.50	61.25	70.00	78.75	87.50	96.25	105.00
Cost cubic yd. (cts.).....	.23	.29	.35	.40	.46	.52	.58	.64	.70
Wages, man 10 hours.....	\$ 3.25	\$ 3.50	\$ 3.75	\$ 4.00	\$ 4.25	\$ 4.50			
Wages combined (35 men).....	113.75	122.50	131.25	140.00	148.75	157.50			
Cost cubic yd. (cts.).....	.75	.81	.87	.93	.99	1.05			

NOTE—The writer finds the foregoing articles Nos. 13, 14, 15 to be approximately a very good average of cost of machine mixed concrete. Article No. 16 is very seldom used on account of the batch being too large, causing an over capacity and strain on the machine. The other named batches can very readily be handled.

ARTICLE 17.

Cost of material for concrete. Delivered at sight. Mixture 1-3-4. Cost of cement per barrel, also

ARTICLE 17. (Continued) Mixture 1-3-4.

Cost of cement, barrel.....	\$1.50	\$1.55	\$1.60	\$1.65	\$1.70	\$1.75	\$1.80	\$1.85	\$1.90
Cost cubic yd. concrete (cts.).....	2.53	2.61	2.70	2.78	2.86	2.95	3.03	3.12	3.20
Cost of cement, barrel.....	\$1.95	\$2.00	\$2.05	\$2.10	\$2.15	\$2.20	\$2.25	\$2.30	\$2.35
Cost cubic yd. concrete (cts.).....	3.29	3.37	3.45	3.54	3.62	3.71	3.79	3.88	3.96
Cost of cement, barrel.....	\$2.40	\$2.45	\$2.50	\$2.55	\$2.60	\$2.65	\$2.70	\$2.75	\$2.80
Cost cubic yd. concrete (cts.).....	4.05	4.13	4.21	4.30	4.38	4.47	4.55	4.64	4.72
Cost of cement, barrel.....	\$2.85	\$2.90	\$3.00						
Cost cubic yd. concrete (cts.).....	4.80	4.89	5.06						

ARTICLE 18.

Cost of cement per barrel, also cost per cubic yard. Mixture 1-3-5.

Cost of cement, barrel.....	\$1.50	\$1.55	\$1.60	\$1.65	\$1.70	\$1.75	\$1.80	\$1.85	\$1.90
Cost cubic yd. concrete (cts.).....	2.10	2.17	2.24	2.31	2.38	2.45	2.52	2.59	2.66
Cost of cement, barrel.....	\$1.95	\$2.00	\$2.05	\$2.10	\$2.15	\$2.20	\$2.25	\$2.30	\$2.35
Cost cubic yd. concrete (cts.).....	2.73	2.80	2.87	2.94	3.01	3.08	3.15	3.22	3.29
Cost of cement, barrel.....	\$2.40	\$2.45	\$2.50	\$2.55	\$2.60	\$2.65	\$2.70	\$2.75	\$2.80
Cost cubic yd. concret (cts.).....	3.36	3.43	3.50	3.57	3.64	3.71	3.78	3.85	3.92
Cost of cement, barrel.....	\$2.85	\$2.90	\$2.95	\$3.00					
Cost cubic yd. concrete (cts.).....	3.99	4.06	4.13	4.20					

ARTICLE 19.

Cost of cement per barrel, also cost per cubic yard. Mixture 1-3-6.

Cost of cement, barrel.....	\$1.50	\$1.55	\$1.60	\$1.65	\$1.70	\$1.75	\$1.80	\$1.85	\$1.90
Cost cubic yd. (cts.).....	1.68	1.74	1.80	1.85	1.91	1.96	2.02	2.08	2.13
Cost of cement, barrel.....	\$1.95	\$2.00	\$2.05	\$2.10	\$2.15	\$2.20	\$2.25	\$2.30	\$2.35
Cost cubic yd. (cts.).....	2.19	2.25	2.30	2.36	2.41	2.47	2.53	2.58	2.64
Cost of cement, barrel.....	\$2.40	\$2.45	\$2.50	\$2.55	\$2.60	\$2.65	\$2.70	\$2.75	\$2.80
Cost cubic yd. (cts.).....	2.70	2.75	2.81	2.86	2.92	2.98	3.06	3.09	3.15
Cost of cement, barrel.....	\$2.85	\$2.90	\$2.95	\$3.00					
Cost cubic yd. (cts.).....	3.20	3.26	3.31	3.43					

ARTICLE 20.

Cost of cement per barrel, also cost per cubic yard. Mixture 1-3-7.

Cost of cement, barrel.....	\$1.50	\$1.55	\$1.60	\$1.65	\$1.70	\$1.75	\$1.80	\$1.85	\$1.90
Cost cubic yd. (cts.).....	1.50	1.55	1.60	1.65	1.70	1.75	1.80	1.85	1.90
Cost of cement, barrel.....	\$1.95	\$2.00	\$2.05	\$2.10	\$2.15	\$2.20	\$2.25	\$2.30	\$2.35
Cost cubic yd. (cts.).....	1.95	2.00	2.05	2.10	2.15	2.20	2.25	2.30	2.35
Cost of cement, barrel.....	\$2.40	\$2.45	\$2.50	\$2.55	\$2.60	\$2.65	\$2.70	\$2.75	\$2.80
Cost cubic yd. (cts.).....	2.40	2.45	2.50	2.55	2.60	2.65	2.70	2.75	2.80
Cost of cement, barrel.....	\$2.85	\$2.90	\$2.95	\$3.00					

ARTICLE 41. COST OF MATERIALS FOR CONCRETE.

Cost of cement per barrel, also cost per cubic yard of concrete.

Cost of cement, barrel.....	\$1.50	\$1.55	\$1.60	\$1.65	\$1.70	\$1.75	\$1.80	\$1.85	\$1.90
Cost cubic yd. (cts.).....	2.62	2.71	2.80	2.88	2.97	3.06	3.15	3.23	3.32
Cost of cement, barrel.....	\$1.95	\$2.00	\$2.05	\$2.10	\$2.15	\$2.20	\$2.25	\$2.30	\$2.35
Cost cubic yd. (cts.).....	3.41	3.50	3.58	3.67	3.76	3.85	3.93	4.02	4.11
Cost of cement, barrel.....	\$2.40	\$2.45	\$2.50	\$2.55	\$2.60	\$2.65	\$2.70	\$2.75	\$2.80
Cost cubic yd. (cts.).....	4.20	4.28	4.37	4.46	4.55	4.63	4.72	4.81	4.90
Cost of cement, barrel.....	\$2.85	\$2.90	\$2.95	\$3.00					
Cost cubic yd. (cts.).....	4.98	5.07	5.16	5.25					

ARTICLE 22.

Cost of sand per cubic yard. Delivered at site, also cost per cubic yard of concrete. Mixture 1-2

4 or 5.

Cost of sand cubic yd. (cts.).....	\$.70	\$.80	\$.85	\$.90	\$.95	\$1.00	\$1.05	\$1.10	\$1.15
Cost of sand cu. yd. concrete (cts.)..	.37	.40	.42	.45	.47	.50	.52	.55	.57
Cost of sand cubic yd. (cts.).....	\$1.20	\$1.25	\$1.30	\$1.35					
Cost of sand cu. yd. concrete (cts.)..	.60	.62	.65	.67					
Cost of sand cubic yd.	\$1.40	\$1.45	\$1.50	\$1.55	\$1.60	\$1.65	\$1.70	\$1.75	\$1.80
Cost of sand cu. yd. concrete (cts.)..	.70	.72	.75	.77	.80	.82	.85	.87	.90
Cost of sand cubic yd.	\$1.85	\$1.90	\$1.95	\$2.00					
Cost of sand cu. yd. concrete (cts.)..	.92	.95	.97	1.00					

ARTICLE 23.

Cost of sand per cubic yard delivered, also cost per cubic yard of concrete. Mixture 1-3-4.

Cost of sand cubic yd. (cts.).....	\$.75	\$.80	\$.85	\$.90	\$.95	\$ 1.00	\$ 1.05	\$ 1.10	\$ 1.15
Cost of sand cu. yd. concrete (cts.)..	.53	.57	.60	.64	.67	.71	.75	.78	.82
Cost of sand cubic yd. (cts.).....	\$ 1.20	\$ 1.25	\$ 1.30	\$ 1.35					
Cost of sand cu. yd. concrete (cts.)..	.85	.89	.92	.96					
Cost of sand cubic yd. (cts.).....	\$ 1.40	\$ 1.45	\$ 1.50	\$ 1.55	\$ 1.60	\$ 1.65	\$ 1.70	\$ 1.75	\$ 1.80
Cost of sand cu. yd. concrete (cts.)..	1.00	1.03	1.07	1.10	1.14	1.17	1.21	1.25	1.28
Cost of sand cubic yard (cts.).....	\$ 1.85	\$ 1.90	\$ 1.95	\$ 2.00					
Cost of sand cu. yd. concrete (cts.)..	1.32	1.35	1.39	1.42					

ARTICLE 24.

Cost of sand per cubic yard delivered, also cost per cubic yard of concrete. Mixture 1-3-5.

Cost of sand cubic yd.	\$.75	\$.80	\$.85	\$.90	\$.95	\$ 1.00	\$ 1.05	\$ 1.10	\$ 1.15
Cost of sand cu. yd. concrete (cts.)..	.47	.50	.53	.56	.59	.62	.66	.69	.72
Cost of sand cubic yd.	\$ 1.20	\$ 1.25	\$ 1.30	\$ 1.35					
Cost of sand cu. yd. concrete (cts.)..	.75	.78	.81	.85					
Cost of sand cubic yd.	\$ 1.40	\$ 1.45	\$ 1.50	\$ 1.55	\$ 1.60	\$ 1.65	\$ 1.70	\$ 1.75	\$ 1.80
Cost of sand cu. yd. concrete (cts.)..	.88	.91	.94	.97	1.00	1.03	1.07	1.10	1.13
Cost of sand cubic yd.	\$ 1.85	\$ 1.90	\$ 1.95	\$ 2.00					
Cost of sand cu. yd. concrete (cts.)..	1.16	1.19	1.22	1.25					

ARTICLE 25. Cost of sand per cubic yard delivered, also cost per cubic yard of concrete. Mixture 1-3-6.									
Cost of sand cubic yd.....	\$.75	\$.80	\$.85	\$.90	\$.95	\$ 1.00	\$ 1.05	\$ 1.10	\$ 1.15
Cost of sand cu. yd. concrete (cts.)..	.37	.40	.42	.45	.47	.50	.52	.55	.57
Cost of sand cubic yd.....	\$ 1.20	\$ 1.25	\$ 1.30	\$ 1.35					
Cost of sand cu. yd. concrete (cts.)..	.60	.62	.65	.67					
Cost of sand cubic yd.....	\$ 1.40	\$ 1.45	\$ 1.50	\$ 1.55	\$ 1.60	\$ 1.65	\$ 1.70	\$ 1.75	\$ 1.80
Cost of sand cu. yd. concrete (cts.)..	.70	.72	.75	.77	.80	.82	.85	.87	.90
Cost of sand cubic yd.....	\$ 1.85	\$ 1.90	\$ 1.95	\$ 2.00					
Cost of sand cu. yd. concrete (cts.)..	.92	.95	.97	1.00					

ARTICLE 26.

Cost of sand per cubic yard delivered, also cost per cubic yard of concrete. Mixture 1-3-7.

Cost of sand cubic yd.....	\$.75	\$.80	\$.85	\$.90	\$.95	\$ 1.00	\$ 1.05	\$ 1.10	\$ 1.15
Cost of sand cu. yd. concrete (cts.)..	.33	.35	.37	.40	.42	.44	.46	.48	.51
Cost of sand cubic yd.....	\$ 1.20	\$ 1.25	\$ 1.30	\$ 1.35					
Cost of sand cu. yd. concrete (cts.)..	.53	.55	.57	.60					
Cost of sand cubic yd.....	\$ 1.40	\$ 1.45	\$ 1.50	\$ 1.55	\$ 1.60	\$ 1.65	\$ 1.70	\$ 1.75	\$ 1.80
Cost of sand cu. yd. concrete (cts.)..	.62	.64	.66	.68	.71	.73	.75	.77	.80
Cost of sand cubic yd.....	\$ 1.85	\$ 1.90	\$ 1.95	\$ 2.00					
Cost of sand cu. yd. concrete (cts.)..	.82	.84	.86	.88					

ARTICLE 27. Cost of crushed stone per cubic yard delivered and cost per yard in place.										
Cost cubic yd. delivered.....	\$.75	\$.80	\$.85	\$.90	\$.95	\$1.00	\$1.05	\$1.10	\$1.15	
Cost cubic yd. in place.....	.75	.80	.85	.90	.95	1.00	1.05	1.10	1.15	
Cost cubic yd. delivered.....	\$1.20	\$1.25	\$1.30	\$1.35	\$1.40	\$1.45				
Cost cubic yd. in place.....	1.20	1.25	1.30	1.35	1.40	1.45				
Cost cubic yd. delivered.....	\$1.50	\$1.55	\$1.60	\$1.65	\$1.75	\$1.80	\$1.90	\$2.00	\$2.05	
Cost cubic yd. in place.....	1.50	.55	1.60	1.65	1.75	1.80	1.90	2.00	2.05	
Cost cubic yd. delivered.....	\$2.10	\$2.15	\$2.20	\$2.25	\$2.50	\$2.75				
Cost cubic yd. in place.....	2.10	2.15	2.20	2.25	2.50	2.75				

106

ARTICLE 28. Labor cost of breaking lime stone by hand. Sizes 2 to 2½ inches.

Wages, man 10 hours.....	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00	
Cost cubic yd. (cta.).....	.40	.50	.60	.70	.80	.90	1.00	1.10	1.30	
Wages, man 10 hours.....	\$3.50									
Cost cubic yd. (cta.).....	1.40									
For concrete, etc.										

ARTICLE 29. Labor cost shoveling crushed stone from flat cars to wagons. Ten hours per day.

Wages, man 10 hours.....	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00	
Cost cubic yd. (cta.).....	.05	.06	.08	.09	.11	.12	.13	.15	.16	
Wages, man 10 hours.....	\$3.25	\$3.50	\$3.75	\$4.00						

Wages, man 10 hours.....	\$3.25	\$3.50	\$3.75	\$4.00
Cost cubic yd. (cts.).....	.25	.26	.28	.30

The above prices from hopper car may apply the same prices for shoveling rock into wagons from off the ground.

ARTICLE 31. Labor cost shoveling sand and gravel from cars to wagons. Ten hours per day.

Wages, man 10 hours.....	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00
Cost cubic yd. (cts.).....	.05	.06 $\frac{1}{4}$	.07 $\frac{1}{2}$	.08 $\frac{3}{4}$	.10	.11 $\frac{1}{4}$	.12 $\frac{1}{2}$	.13 $\frac{3}{4}$	.15
Wages, man 10 hours.....	\$3.25	\$3.50	\$3.75	\$4.00					
Cost cubic yd. (cts.).....	.16 $\frac{1}{4}$	.17 $\frac{1}{2}$	.18 $\frac{3}{4}$	.20					

ARTICLE 32. HAULING ONE CUBIC YARD OF CRUSHED ROCK $\frac{1}{4}$ MILE (10 HOURS PER DAY)
Basis Two Teams Hauling, Two Men Loading

Wages combined.....	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00	\$13.25
Cost cubic yd. (cts.).....	.30	.31	.32	.32	.33	.34	.34	.35	.36	.36
Wages combined.....	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00	\$15.25	\$15.50	\$15.75
Cost cubic yd. (cts.).....	.37	.38	.38	.39	.40	.41	.41	.42	.43	.43
Wages combined.....	\$16.00	\$16.25	\$16.50	\$16.75	\$17.00	\$18.00	\$19.00	\$20.00		
Cost cubic yd. (cts.).....	.44	.45	.45	.46	.47	.50	.52	.55		

ARTICLE 33.

HAULING ONE CUBIC YARD OF CRUSHED ROCK $\frac{1}{2}$ MILE (10 HOURS PER DAY)

Basis Three Teams Hauling, Two Men Loading

Wages combined.....	\$15.00	\$15.25	\$15.50	\$15.75	\$16.00	\$16.25	\$16.50	\$16.75	\$17.00	\$17.25
Cost cubic yd. (cts.).....	.37	.38	.38	.39	.40	.40	.41	.41	.42	.43
Wages combined.....	\$17.50	\$17.75	\$18.00	\$18.25	\$18.50	\$18.75	\$19.00	\$19.25	\$19.50	\$19.75
Cost cubic yd. (cts.).....	.43	.44	.45	.45	.46	.46	.47	.48	.48	.49
Wages combined.....	\$20.00	\$20.25	\$20.50	\$20.75	\$21.00	\$22.00	\$23.00	\$24.00		
Cost cubic yd. (cts.).....	.50	.50	.51	.51	.52	.55	.57	.60		

ARTICLE 34.

HAULING ONE CUBIC YARD OF CRUSHED ROCK $\frac{3}{4}$ MILE (10 HOURS PER DAY)

Basis Four Teams Hauling, Three Men Loading

Wages combined.....	\$20.00	\$20.25	\$20.50	\$20.75	\$21.00	\$21.25	\$21.50	\$21.75	\$22.00	\$22.25
Cost cubic yd. (cts.).....	.41	.42	.42	.43	.43	.44	.44	.45	.45	.46
Wages combined.....	\$22.50	\$22.75	\$23.00	\$23.25	\$23.50	\$23.75	\$24.00	\$24.50	\$25.00	\$25.50
Cost cubic yd. (cts.).....	.46	.47	.48	.48	.48	.49	.50	.51	.52	.53
Wages combined.....	\$26.00	\$26.50	\$27.00	\$27.50	\$28.00	\$28.50	\$29.00	\$30.00		
Cost cubic yd. (cts.).....	.54	.55	.56	.57	.58	.59	.60	.62		

ARTICLE 35.

MHAULING ONE CUBIC YARD OF CRUSHED ROCK 1 MILE (10 HOURS PER DAY)

Basis Five Teams Hauling, Three Men Loading

Wages combined.....	\$24.00	\$24.25	\$24.50	\$24.75	\$25.00	\$25.25	\$25.50	\$25.75	\$26.00	\$26.25
Cost cubic yd. (cts.).....	.53	.53	.54	.55	.55	.56	.56	.57	.57	.58
Wages combined.....	\$26.50	\$26.75	\$27.00	\$27.50	\$28.00	\$28.50	\$29.00	\$29.50	\$30.00	\$30.50
Cost cubic yd. (cts.).....	.58	.59	.60	.61	.62	.63	.64	.65	.66	.67
Wages combined.....	\$31.00	\$31.50	\$32.00	\$32.50	\$33.00	\$33.50	\$34.00	\$35.00		
Cost cubic yd. (cts.).....	.68	.70	.71	.72	.73	.74	.75	.77		

ARTICLE 36.

HAULING ONE CUBIC YARD OF CRUSHED ROCK 1 1/4 MILES (10 HOURS PER DAY)

Basis Seven Teams Hauling, Three Men Loading

Wages combined.....	\$32.00	\$32.25	\$32.50	\$32.75	\$33.00	\$33.25	\$33.50	\$33.75	\$34.00	\$34.25
Cost cubic yd. (cts.).....	.64	.64	.65	.65	.66	.66	.67	.67	.68	.68
Wages combined.....	\$34.50	\$34.75	\$35.00	\$35.50	\$36.00	\$36.50	\$37.00	\$37.50	\$38.00	\$38.50
Cost cubic yd. (cts.).....	.69	.69	.70	.71	.72	.73	.74	.75	.76	.77
Wages combined.....	\$39.00	\$39.50	\$40.00	\$41.00	\$42.00	\$43.00	\$44.00	\$45.00		
Cost cubic yd. (cts.).....	.78	.79	.80	.82	.84	.86	.88	.90		

ARTICLE 37.

HAULING ONE CUBIC YARD OF CRUSHED ROCK $1\frac{1}{2}$ MILES (10 HOURS PER DAY)

Basis Nine Teams Hauling, Three Men Loading

Wages combined.....	\$40.00	\$40.25	\$40.50	\$40.75	\$41.00	\$41.25	\$41.50	\$41.75	\$42.00	\$42.25
Cost cubic yd. (cts.).....	.72	.73	.73	.74	.74	.75	.75	.76	.76	.76
Wages combined.....	\$42.50	\$42.75	\$43.00	\$43.50	\$44.00	\$44.50	\$45.00	\$45.50	\$46.00	\$47.00
Cost cubic yd. (cts.).....	.77	.77	.78	.79	.80	.80	.81	.82	.83	.85
Wages combined.....	\$48.00	\$49.00	\$50.00	\$51.00	\$52.00	\$53.00	\$54.00	\$55.00		
Cost cubic yd. (cts.).....	.87	.89	.91	.92	.94	.96	.98	1.00		

ARTICLE 38.

HAULING ONE CUBIC YARD OF CRUSHED ROCK $1\frac{3}{4}$ MILES (10 HOURS PER DAY)

Basis Ten Teams Hauling, Three Men Loading

Wages combined.....	\$44.00	\$44.25	\$44.50	\$44.75	\$45.00	\$45.25	\$45.50	\$45.75	\$46.00	\$46.25
Cost cubic yd. (cts.).....	.84	.85	.85	.86	.86	.87	.87	.88	.88	.88
Wages combined.....	\$46.50	\$46.75	\$47.00	\$47.50	\$48.00	\$48.50	\$49.00	\$50.00	\$51.00	\$52.00
Cost cubic yd. (cts.).....	.89	.89	.90	.91	.92	.93	.94	.96	.98	1.00
Wages combined.....	\$53.00	\$54.00	\$55.00	\$56.00	\$57.00	\$58.00	\$59.00	\$60.00		
Cost cubic yd. (cts.).....	1.01	1.03	1.05	1.07	1.09	1.11	1.13	1.15		

ARTICLE 39.

HAULING ONE CUBIC YARD OF CRUSHED ROCK 2 MILES (10 HOURS PER DAY)

Basis Twelve Teams Hauling, Three Men Loading

Wages combined.....	\$52.00	\$52.25	\$52.50	\$52.75	\$53.00	\$53.25	\$53.50	\$53.75	\$54.00	\$54.25
Cost cubic yd. (cts.).....	.94	.94	.95	.95	.96	.96	.97	.97	.98	.98
Wages combined.....	\$54.50	\$54.75	\$55.00	\$56.00	\$57.00	\$58.00	\$59.00	\$60.00	\$61.00	\$62.00
Cost cubic yd. (cts.).....	.99	.99	1.00	1.01	1.03	1.05	1.07	1.09	1.10	1.12
Wages combined.....	\$63.00	\$64.00	\$65.00	\$66.00	\$67.00	\$68.00	\$69.00	\$70.00		
Cost cubic yd. (cts.).....	1.14	1.16	1.18	1.20	1.21	1.23	1.25	1.27		

ARTICLE 40.

HAULING ONE CUBIC YARD OF CRUSHED ROCK 2 1/4 MILES (10 HOURS PER DAY)

Basis Fourteen Teams Hauling, Three Men Loading

Wages combined.....	\$60.00	\$60.25	\$60.50	\$60.75	\$61.00	\$61.25	\$61.50	\$61.75	\$62.00	\$62.25
Cost cubic yd. (cts.).....	1.09	1.09	1.10	1.10	1.10	1.11	1.11	1.12	1.12	1.13
Wages combined.....	\$62.50	\$62.75	\$63.00	\$64.00	\$65.00	\$66.00	\$67.00	\$68.00	\$69.00	\$70.00
Cost cubic yd. (cts.).....	1.13	1.14	1.14	1.16	1.18	1.20	1.21	1.23	1.25	1.27
Wages combined.....	\$71.00	\$72.00	\$73.00	\$74.00	\$75.00	\$76.00	\$77.00	\$78.00		
Cost cubic yd. (cts.).....	1.29	1.30	1.32	1.34	1.36	1.38	1.40	1.41		

ARTICLE 41.

HAULING ONE CUBIC YARD OF CRUSHED ROCK 2½ MILES (10 HOURS PER DAY)

Basis Sixteen Teams Hauling, Three Men Loading

Wages combined.....	\$68.00	\$68.25	\$68.50	\$68.75	\$69.00	\$69.25	\$69.50	\$69.75	\$70.00	\$71.00
Cost cubic yd. (cts.).....	1.23	1.24	1.24	1.25	1.25	1.25	1.26	1.26	1.27	1.29
Wages combined.....	\$72.00	\$73.00	\$74.00	\$75.00	\$76.00	\$77.00	\$78.00	\$79.00	\$80.00	\$81.00
Cost cubic yd. (cts.).....	1.30	1.32	1.34	1.36	1.38	1.40	1.41	1.43	1.45	1.47
Wages combined.....	\$82.00	\$83.00	\$84.00	\$85.00	\$86.00	\$87.00	\$88.00	\$89.00		
Cost cubic yd. (cts.).....	1.49	1.50	1.52	1.54	1.56	1.58	1.60	1.61		

ARTICLE 42.

HAULING ONE CUBIC YARD OF CRUSHED ROCK 2¾ MILES (1 HOURS PER DAY)

Basis Seventeen Teams Hauling, Three Men Loading

Wages combined.....	\$72.00	\$72.25	\$72.50	\$72.75	\$73.00	\$73.25	\$73.50	\$74.00	\$75.00	\$76.00
Cost cubic yd. (cts.).....	1.30	1.31	1.31	1.32	1.32	1.33	1.33	1.34	1.36	1.38
Wages combined.....	\$77.00	\$78.00	\$79.00	\$80.00	\$81.00	\$82.00	\$83.00	\$84.00	\$85.00	\$86.00
Cost cubic yd. (cts.).....	1.40	1.41	1.43	1.45	1.47	1.49	1.50	1.52	1.54	1.56
Wages combined.....	\$87.00	\$88.00	\$89.00	\$90.00	\$91.00	\$92.00	\$93.00	\$94.00		
Cost cubic yd. (cts.).....	1.58	1.60	1.61	1.63	1.65	1.67	1.69	1.70		

ARTICLE 43.

HAULING ONE CUBIC YARD OF CRUSHED ROCK 3 MILES (10 HOURS PER DAY)

Basis Eighteen Teams Hauling, Three Men Loading

Wages combined.....	\$76.00	\$76.25	\$76.50	\$76.75	\$77.00	\$78.00	\$79.00	\$80.00	\$81.00	\$82.00
Cost cubic yd. (cts.).....	1.38	1.38	1.39	1.39	1.40	1.41	1.43	1.45	1.47	1.49
Wages combined.....	\$83.00	\$84.00	\$85.00	\$86.00	\$87.00	\$88.00	\$89.00	\$90.00	\$91.00	\$92.00
Cost cubic yd. (cts.).....	1.50	1.52	1.54	1.56	1.58	1.60	1.61	1.63	1.65	1.67
Wages combined.....	\$93.00	\$94.00	\$95.00	\$96.00	\$97.00	\$98.00	\$99.00	\$100.00		
Cost cubic yd. (cts.).....	1.69	1.70	1.72	1.74	1.76	1.78	1.80	1.81		

ARTICLE 44.

HAULING ONE AND ONE-HALF CUBIC YARDS CRUSHED ROCK PER LOAD $\frac{1}{2}$ MILE (10 HOURS PER DAY)

Basis Two Teams Hauling, Three Men Loading

Wages combined.....	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00	\$13.25
Cost cubic yd. (cts.).....	.20	.20	.21	.21	.22	.22	.23	.23	.24	.24
Wages combined.....	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00	\$15.25	\$15.50	\$15.75
Cost cubic yd. (cts.).....	.25	.25	.25	.26	.26	.27	.27	.28	.28	.29
Wages combined.....	\$16.00	\$16.25	\$16.50	\$16.75	\$17.00	\$18.00	\$19.00	\$20.00		
Cost cubic yd. (cts.).....	.29	.30	.30	.31	.31	.33	.35	.37		

ARTICLE 45.

HAULING ONE AND ONE-HALF CUBIC YARDS CRUSHED ROCK PER LOAD ½ MILE (10 HOURS PER DAY)

Basis Three Teams Hauling, Three Men Loading

Wages combined.....	\$15.00	\$15.25	\$15.50	\$15.75	\$16.00	\$16.25	\$16.50	\$16.75	\$17.00	\$17.25
Cost cubic yd. (cts.).....	.25	.26	.26	.27	.27	.28	.28	.28	.29	.29
Wages combined.....	\$17.50	\$17.75	\$18.00	\$18.25	\$18.50	\$18.75	\$19.00	\$19.25	\$19.50	\$19.75
Cost cubic yd. (cts.).....	.30	.30	.31	.31	.31	.32	.32	.33	.33	.34
Wages combined.....	\$20.00	\$20.50	\$21.00	\$21.50	\$22.00	\$23.00	\$24.00	\$25.00		
Cost cubic yd. (cts.).....	.34	.35	.36	.37	.37	.39	.41	.43		

114

ARTICLE 46.

HAULING ONE AND ONE-HALF CUBIC YARDS CRUSHED ROCK PER LOAD ¾ MILE (10 HOURS PER DAY)

Basis Four Teams Hauling, Three Men Loading

Wages combined.....	\$19.00	\$19.25	\$19.50	\$19.75	\$20.00	\$20.25	\$20.50	\$20.75	\$21.00	\$21.25
Cost cubic yd. (cts.).....	.32	.33	.33	.33	.34	.34	.35	.35	.36	.36
Wages combined.....	\$21.50	\$21.75	\$22.00	\$22.25	\$22.50	\$22.75	\$23.00	\$23.25	\$23.50	\$24.00
Cost cubic yd. (cts.).....	.37	.37	.37	.38	.38	.39	.39	.40	.40	.41
Wages combined.....	\$24.50	\$25.00	\$25.50	\$26.00	\$27.00	\$28.00	\$29.00	\$30.00		
Cost cubic yd. (cts.).....	.42	.43	.43	.44	.46	.48	.50	.51		

ARTICLE 47.

HAULING ONE AND ONE-HALF CUBIC YARDS CRUSHED ROCK PER LOAD 1 MILE (10 HOURS PER DAY)

Basis Four Teams Hauling, Three Men Loading

Wages combined.....	\$19.00	\$19.25	\$19.50	\$19.75	\$20.00	\$20.25	\$20.50	\$20.75	\$21.00	\$21.25
Cost cubic yd. (cts.).....	.38	.38	.39	.39	.40	.40	.41	.41	.42	.42
Wages combined.....	\$21.50	\$21.75	\$22.00	\$22.25	\$22.50	\$22.75	\$23.00	\$23.25	\$23.50	\$24.00
Cost cubic yd. (cts.).....	.43	.43	.44	.44	.45	.45	.46	.46	.47	.48
Wages combined.....	\$24.50	\$25.00	\$25.50	\$26.00	\$27.00	\$28.00	\$29.00	\$30.00		
Cost cubic yd. (cts.).....	.49	.50	.51	.52	.54	.56	.58	.60		

ARTICLE 48.

HAULING ONE AND ONE-HALF CUBIC YARDS CRUSHED ROCK PER LOAD 1½ MILES (10 HOURS PER DAY)

Basis Five Teams Hauling, Three Men Loading

Wages combined.....	\$23.00	\$23.25	\$23.50	\$23.75	\$24.00	\$24.25	\$24.50	\$24.75	\$25.00	\$25.25
Cost cubic yd. (cts.).....	.46	.46	.47	.47	.48	.48	.49	.49	.50	.50
Wages combined.....	\$25.50	\$25.75	\$26.00	\$26.25	\$26.50	\$27.00	\$27.50	\$28.00	\$28.50	\$29.00
Cost cubic yd. (cts.).....	.51	.51	.52	.52	.53	.54	.55	.56	.57	.58
Wages combined.....	\$29.50	\$30.00	\$30.50	\$31.00	\$32.00	\$33.00	\$34.00	\$35.00		
Cost cubic yd. (cts.).....	.59	.60	.61	.62	.64	.66	.68	.70		

ARTICLE 49.

HAULING ONE AND ONE-HALF CUBIC YARDS CRUSHED ROCK PER LOAD 1½ MILES (10 HOURS PER DAY)

Basis Six Teams Hauling, Three Men Loading

Wages combined.....	\$27.00	\$27.25	\$27.50	\$27.75	\$28.00	\$28.25	\$28.50	\$28.75	\$29.00	\$29.25
Cost cubic yd. (cts.).....	.54	.55	.55	.55	.56	.56	.57	.57	.58	.58
Wages combined.....	\$29.50	\$29.75	\$30.00	\$30.25	\$30.50	\$30.75	\$31.00	\$31.50	\$32.00	\$32.50
Cost cubic yd. (cts.).....	.59	.59	.60	.60	.61	.61	.62	.63	.64	.65
Wages combined.....	\$33.00	\$34.00	\$35.00	\$36.00	\$37.00	\$38.00	\$39.00	\$40.00		
Cost cubic yd. (cts.).....	.66	.68	.70	.72	.74	.76	.78	.80		

116

ARTICLE 50.

HAULING ONE AND ONE-HALF CUBIC YARDS CRUSHED ROCK PER LOAD 1½ MILES (10 HOURS PER DAY)

Basis Seven Teams Hauling, Three Men Loading

Wages combined.....	\$31.00	\$31.25	\$31.50	\$31.75	\$32.00	\$32.25	\$32.50	\$32.75	\$33.00	\$33.50
Cost cubic yd. (cts.).....	.62	.62	.63	.63	.64	.64	.65	.65	.66	.67
Wages combined.....	\$34.00	\$34.50	\$35.00	\$35.50	\$36.00	\$36.50	\$37.00	\$37.50	\$38.00	\$38.50
Cost cubic yd. (cts.).....	.68	.69	.70	.71	.72	.73	.74	.75	.76	.77
Wages combined.....	\$39.00	\$39.50	\$40.00	\$41.00	\$42.00	\$43.00	\$44.00	\$45.00		
Cost cubic yd. (cts.).....	.78	.79	.80	.82	.84	.86	.88	.90		

ARTICLE 51.

HAULING ONE AND ONE-HALF CUBIC YARDS CRUSHED ROCK PER LOAD 2 MILES (10 HOURS PER DAY)

Basis Eight Teams Hauling, Three Men Loading

Wages combined.....	\$35.00	\$35.25	\$35.50	\$35.75	\$36.00	\$36.50	\$37.00	\$37.50	\$38.00	\$38.50
Cost cubic yd. (cts.).....	.70	.70	.71	.71	.72	.73	.74	.75	.76	.77
Wages combined.....	\$39.00	\$39.50	\$40.00	\$40.50	\$41.00	\$41.50	\$42.00	\$42.50	\$43.00	\$43.50
Cost cubic yd. (cts.).....	.78	.79	.80	.81	.82	.83	.84	.85	.86	.87
Wages combined.....	\$44.00	\$44.50	\$45.00	\$46.00	\$47.00	\$48.00	\$49.00	\$50.00		
Cost cubic yd. (cts.).....	.88	.89	.90	.92	.94	.96	.98	1.00		

117

ARTICLE 52.

HAULING ONE AND ONE-HALF CUBIC YARDS CRUSHED ROCK PER LOAD 2 1/4 MILES (10 HOURS PER DAY)

Basis Ten Teams Hauling Three Men Loading

Wages combined.....	\$43.00	\$43.50	\$44.00	\$44.50	\$45.00	\$45.50	\$46.00	\$46.50	\$47.00	\$47.50
Cost cubic yd. (cts.).....	.78	.79	.80	.80	.81	.82	.83	.84	.85	.86
Wages combined.....	\$48.00	\$48.50	\$49.00	\$49.50	\$50.00	\$50.50	\$51.00	\$51.50	\$52.00	\$52.50
Cost cubic yd. (cts.).....	.87	.88	.89	.90	.90	.91	.92	.93	.94	.95
Wages combined.....	\$53.00	\$53.50	\$54.00	\$54.50	\$55.00	\$55.50	\$56.00	\$56.50		
Cost cubic yd. (cts.).....	.96	.97	.98	.99	1.00	1.00	1.01	1.02		

ARTICLE 53.

HAULING ONE AND ONE-HALF CUBIC YARDS CRUSHED ROCK PER LOAD 2½ MILES (10 HOURS PER DAY)

Basis Eleven Teams Hauling, Three Men Loading

Wages combined.....	\$47.00	\$47.50	\$48.00	\$48.50	\$49.00	\$49.50	\$50.00	\$50.50	\$51.00	\$51.50
Cost cubic yd. (cts.).....	.85	.86	.87	.88	.89	.90	.90	.91	.92	.93
Wages combined.....	\$52.00	\$52.50	\$53.00	\$53.50	\$54.00	\$54.50	\$55.00	\$55.50	\$56.00	\$56.50
Cost cubic yd. (cts.).....	.94	.95	.96	.97	.98	.99	1.00	1.00	1.01	1.02
Wages combined.....	\$57.00	\$57.50	\$58.00	\$59.00	\$60.00	\$61.00	\$62.00	\$63.00		
Cost cubic yd. (cts.).....	1.03	1.04	1.05	1.07	1.09	1.10	1.12	1.14		

ARTICLE 54.

HAULING ONE AND ONE-HALF CUBIC YARDS CRUSHED ROCK PER LOAD 2¼ MILES (10 HOURS PER DAY)

Basis Thirteen Teams Hauling, Three Men Loading

Wages combined.....	\$55.00	\$55.50	\$56.00	\$56.50	\$57.00	\$57.50	\$58.00	\$58.50	\$59.00	\$59.50
Cost cubic yd. (cts.).....	1.00	1.00	1.01	1.02	1.03	1.04	1.05	1.06	1.07	1.08
Wages combined.....	\$60.00	\$60.50	\$61.00	\$61.50	\$62.00	\$63.00	\$64.00	\$65.00	\$66.00	\$67.00
Cost cubic yd. (cts.).....	1.09	1.10	1.10	1.11	1.12	1.14	1.16	1.18	1.20	1.21

ARTICLE 55.

HAULING ONE AND ONE-HALF CUBIC YARDS CRUSHED ROCK PER LOAD 3 MILES (10 HOURS PER DAY)

Basis Fourteen Teams Hauling, Three Men Loading

Wages combined.....	\$59.00	\$59.50	\$60.00	\$60.50	\$61.00	\$61.50	\$62.00	\$62.50	\$63.00	\$63.50
Cost cubic yd. (cts.).....	1.13	1.14	1.15	1.16	1.17	1.18	1.19	1.20	1.21	1.22
Wages combined.....	\$64.00	\$64.50	\$65.00	\$66.00	\$67.00	\$68.00	\$69.00	\$70.00	\$71.00	\$72.00
Cost cubic yd. (cts.).....	1.23	1.24	1.25	1.26	1.28	1.30	1.32	1.34	1.36	1.38
Wages combined.....	\$73.00	\$74.00	\$75.00	\$76.00	\$77.00	\$78.00	\$79.00	\$80.00		
Cost cubic yd. (cts.).....	1.40	1.42	1.44	1.46	1.48	1.50	1.51	1.53		

ARTICLE 56.

HAULING TWO CUBIC YARDS CRUSHED ROCK PER LOAD $\frac{1}{4}$ MILE (10 HOURS PER DAY)

Basis Two Teams Hauling, Three Men Loading

Wages combined.....	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00	\$13.25
Cost cubic yd. (cts.).....	.18	.19	.19	.20	.20	.21	.21	.21	.22	.22
Wages combined.....	\$13.50	\$13.75	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00	\$15.25	\$15.50	\$15.75
Cost cubic yd. (cts.).....	.23	.23	.24	.24	.25	.25	.25	.26	.26	.27
Wages combined.....	\$16.00	\$16.25	\$16.50	\$16.75	\$17.00	\$18.00	\$19.00	\$20.00		
Cost cubic yd. (cts.).....	.27	.28	.28	.28	.29	.31	.32	.34		

ARTICLE 57.

HAULING TWO CUBIC YARDS CRUSHED ROCK PER LOAD $\frac{1}{2}$ MILE (10 HOURS PER DAY)

Basis Three Teams Hauling, Three Men Loading

Wages combined.....	\$15.00	\$15.25	\$15.50	\$15.75	\$16.00	\$16.25	\$16.50	\$16.75	\$17.00	\$17.25
Cost cubic yd. (cts.).....	.25	.25	.25	.26	.26	.27	.27	.27	.28	.28
Wages comb ned.....	\$17.50	\$17.75	\$18.00	\$18.25	\$18.50	\$19.00	\$19.50	\$20.00	\$20.50	\$21.00
Cost cubic yd. (cts.).....	.29	.29	.30	.30	.30	.31	.32	.33	.34	.35
Wages combined.....	\$21.50	\$22.00	\$22.50	\$23.00	\$23.50	\$24.00	\$24.50	\$25.00		
Cost cubic yd. (cts.).....	.35	.36	.37	.38	.39	.40	.40	.41		

120
ARTICLE 58.

HAULING TWO CUBIC YARDS CRUSHED ROCK PER LOAD $\frac{3}{4}$ MILE (10 HOURS PER DAY)

Basis Three Teams Hauling, Three Men Loading

Wages combined.....	\$15.00	\$15.25	\$15.50	\$15.75	\$16.00	\$16.25	\$16.50	\$16.75	\$17.00	\$17.25
Cost cubic yd. (cts.).....	.30	.30	.31	.31	.32	.32	.33	.33	.34	.34
Wages combined.....	\$17.50	\$17.75	\$18.00	\$18.25	\$18.50	\$19.00	\$19.50	\$20.00	\$20.50	\$21.00
Cost cubic yd. (cts.).....	.35	.35	.36	.36	.37	.38	.39	.40	.41	.42
Wages combined.....	\$21.50	\$22.00	\$22.50	\$23.00	\$23.50	\$24.00	\$24.50	\$25.00		
Cost cubic yd. (cts.).....	.43	.44	.45	.46	.47	.48	.49	.50		

ARTICLE 59.

HAULING TWO CUBIC YARDS CRUSHED ROCK PER LOAD 1 MILE (10 HOURS PER DAY)

Basis Four Teams Hauling, Three Men Loading

Wages combined.....	\$19.00	\$19.25	\$19.50	\$19.75	\$20.00	\$20.25	\$20.50	\$20.75	\$21.00	\$21.25
Cost cubic yd. (cts.).....	.34	.35	.35	.35	.36	.36	.37	.37	.38	.38
Wages combined.....	\$21.50	\$22.00	\$22.50	\$23.00	\$23.50	\$24.00	\$24.50	\$25.00	\$25.50	\$26.00
Cost cubic yd. (cts.).....	.39	.40	.40	.41	.42	.43	.44	.45	.46	.47
Wages combined.....	\$26.50	\$27.00	\$27.50	\$28.00	\$28.50	\$29.00	\$29.50	\$30.00		
Cost cubic yd. (cts.).....	.48	.49	.50	.50	.51	.52	.53	.54		

ARTICLE 60.

HAULING TWO CUBIC YARDS CRUSHED ROCK PER LOAD 1¼ MILES (10 HOURS PER DAY)

Basis Four Teams Hauling, Three Men Loading

Wages combined.....	\$19.00	\$19.25	\$19.50	\$19.75	\$20.00	\$20.25	\$20.50	\$20.75	\$21.00	\$21.25
Cost cubic yd. (cts.).....	.38	.38	.39	.39	.40	.40	.41	.41	.42	.42
Wages combined.....	\$21.50	\$22.00	\$22.50	\$23.00	\$23.50	\$24.00	\$24.50	\$25.00	\$25.50	\$26.00
Cost cubic yd. (cts.).....	.43	.44	.45	.46	.47	.48	.49	.50	.51	.52
Wages combined.....	\$26.50	\$27.00	\$27.50	\$28.00	\$28.50	\$29.00	\$29.50	\$30.00		
Cost cubic yd. (cts.).....	.53	.54	.55	.56	.57	.58	.59	.60		

ARTICLE 61.

HAULING TWO CUBIC YARDS CRUSHED ROCK PER LOAD 1½ MILES (10 HOURS PER DAY)

Basis Five Teams Hauling, Three Men Loading

Wages combined.....	\$23.00	\$23.25	\$23.50	\$23.75	\$24.00	\$24.25	\$24.50	\$25.00	\$25.50	\$26.00
Cost cubic yd. (cts.).....	.44	.44	.45	.45	.46	.46	.47	.48	.49	.50
Wages combined.....	\$26.50	\$27.00	\$27.50	\$28.00	\$28.50	\$29.00	\$29.50	\$30.00	\$30.50	\$31.00
Cost cubic yd. (cts.).....	.50	.51	.52	.53	.54	.55	.56	.57	.58	.59
Wages combined.....	\$31.50	\$32.00	\$32.50	\$33.00	\$33.50	\$34.00	\$34.50	\$35.00		
Cost cubic yd. (cts.).....	.60	.61	.62	.63	.64	.65	.66	.67		

ARTICLE 62.

HAULING TWO CUBIC YARDS CRUSHED ROCK PER LOAD 1¼ MILES (10 HOURS PER DAY)

Basis Six Teams Hauling, Three Men Loading

Wages combined.....	\$27.00	\$27.25	\$27.50	\$28.00	\$28.50	\$29.00	\$29.50	\$30.00	\$30.50	\$31.00
Cost cubic yd. (cts.).....	.48	.48	.49	.50	.50	.51	.52	.53	.54	.55
Wages combined.....	\$31.50	\$32.00	\$32.50	\$33.00	\$33.50	\$34.00	\$34.50	\$35.00	\$35.50	\$36.00
Cost cubic yd. (cts.).....	.56	.57	.58	.58	.59	.60	.61	.62	.63	.64
Wages combined.....	\$36.50	\$37.00	\$37.50	\$38.00	\$38.50	\$39.00	\$39.50	\$40.00		
Cost cubic yd. (cts.).....	.65	.66	.66	.67	.68	.69	.70	.71		

ARTICLE 63.

HAULING TWO CUBIC YARDS CRUSHED ROCK PER LOAD 2 MILES (10 HOURS PER DAY)

Basis Seven Teams Hauling, Three Men Loading

Wages combined.....	\$31.00	\$31.50	\$32.00	\$32.50	\$33.00	\$33.50	\$34.00	\$34.50	\$35.00	\$35.50
Cost cubic yd. (cts.).....	.53	.54	.55	.56	.56	.57	.58	.59	.60	.61
Wages combined.....	\$36.00	\$36.50	\$37.00	\$37.50	\$38.00	\$38.50	\$39.00	\$39.50	\$40.00	\$40.50
Cost cubic yd. (cts.).....	.62	.62	.63	.64	.65	.66	.67	.68	.68	.69
Wages combined.....	\$41.00	\$41.50	\$42.00	\$42.50	\$43.00	\$43.50	\$44.00	\$44.50		
Cost cubic yd. (cts.).....	.70	.71	.72	.73	.74	.75	.75	.76		

ARTICLE 64.

HAULING TWO CUBIC YARDS CRUSHED ROCK PER LOAD 2¼ MILES (10 HOURS PER DAY)

Basis Eight Teams Hauling, Three Men Loading

Wages combined.....	\$35.00	\$35.50	\$36.00	\$36.50	\$37.00	\$37.50	\$38.00	\$38.50	\$39.00	\$39.50
Cost cubic yd. (cts.).....	.62	.63	.64	.65	.66	.66	.67	.68	.69	.70
Wages combined.....	\$40.00	\$40.50	\$41.00	\$41.50	\$42.00	\$42.50	\$43.00	\$43.50	\$44.00	\$44.50
Cost cubic yd. (cts.).....	.71	.72	.73	.74	.75	.75	.76	.77	.78	.79
Wages combined.....	\$45.00	\$45.50	\$46.00	\$46.50	\$47.00	\$48.00	\$49.00	\$50.00		
Cost cubic yd. (cts.).....	.80	.81	.82	.83	.83	.85	.87	.89		

ARTICLE 65.

HAULING TWO CUBIC YARDS CRUSHED ROCK PER LOAD 2½ MILES (10 HOURS PER DAY)

Basis Nine Teams Hauling, Three Men Loading

Wages combined.....	\$39.00	\$39.50	\$40.00	\$40.50	\$41.00	\$41.50	\$42.00	\$42.50	\$43.00	\$43.50
Cost cubic yd. (cts.).....	.72	.73	.74	.75	.75	.76	.77	.78	.79	.80
Wages combined.....	\$44.00	\$44.50	\$45.00	\$45.50	\$46.00	\$46.50	\$47.00	\$47.50	\$48.00	\$48.50
Cost cubic yd. (cts.).....	.81	.82	.83	.84	.85	.86	.87	.87	.88	.89
Wages combined.....	\$49.00	\$49.50	\$50.00	\$51.00	\$52.00	\$53.00	\$54.00	\$55.00		
Cost cubic yd. (cts.).....	.90	.91	.92	.94	.96	.98	1.00	1.01		

124

ARTICLE 66

HAULING TWO CUBIC YARDS CRUSHED ROCK PER LOAD 2¾ MILES (10 HOURS PER DAY)

Basis Ten Teams Hauling, Three Men Loading

Wages combined.....	\$43.00	\$43.50	\$44.00	\$44.50	\$45.00	\$45.50	\$46.00	\$46.50	\$47.00	\$47.50
Cost cubic yd. (cts.).....	.74	.75	.75	.76	.77	.78	.79	.80	.81	.81
Wages combined.....	\$48.00	\$48.50	\$49.00	\$49.50	\$50.00	\$50.50	\$51.00	\$51.50	\$52.00	\$52.50
Cost cubic yd. (cts.).....	.82	.83	.84	.85	.86	.87	.87	.88	.89	.90
Wages combined.....	\$53.00	\$54.00	\$55.00	\$56.00	\$57.00	\$58.00	\$59.00	\$60.00		
Cost cubic yd. (cts.).....	.91	.93	.94	.96	.98	1.00	1.01	1.03		

Basis Ten Teams Hauling, Two Men Loading

Wages combined.....	\$42.00	\$42.50	\$43.00	\$43.50	\$44.00	\$44.50	\$45.00	\$45.50	\$46.00	\$46.50
Cost cubic yd. (cts.).....	1.05	1.06	1.07	1.08	1.10	1.11	1.12	1.13	1.15	1.16
Wages combined.....	\$47.00	\$47.50	\$48.00	\$48.50	\$49.00	\$49.50	\$50.00	\$50.50	\$51.00	\$51.50
Cost cubic yd. (cts.).....	1.17	1.18	1.20	1.21	1.22	1.23	1.25	1.26	1.27	1.28
Wages combined.....	\$52.00	\$53.00	\$54.00	\$55.00	\$56.00	\$57.00	\$58.00	\$59.00		
Cost cubic yd. (cts.).....	1.30	1.32	1.35	1.37	1.40	1.42	1.45	1.47		

The foregoing prices on hauling crushed rock at various distances, we believe, will give our readers a very good idea how many men to employ loading the rock and the number of teams hauling at the distance shown on tables of cost. Combined wages means the teams and men loading, with fixed wages for each and all added together. For example, we will take Article No. 60 hauling (2 cubic yards per load) at a distance of (1 ¼ miles each way): Four teams we will say at \$5.00 equals \$20.00, three men loading, we will say at wages \$2.00 per day, equals \$6.00 plus \$20.00 equals \$26.00; we find the combined wages to be \$26.00. Finding this amount on top row in Article No. 60 will show in cost row per cubic yard 52 cents, which if car has 40 cubic yards it will cost 40 times 52 equals \$20.80. All prices given on hauling crushed rock are given with the understanding that the roads on which teams haul are in fairly good condition not to be delayed because of stoppage or being overloaded. The loading of rock, it is understood, to be from flat cars or other places similar, not to be shoveled from hopper bottom cars or from places uneven to use shovelers. We do not figure

the teamsters doing any loading as in some localities. The Teamster's Union refuse the shoveling, therefore, they do nothing until they are loaded. In other places, the teamsters are required to help load. If by using the number of shovelers and teams as shown in tables, the teamster would have very little time to help load, unless it should be on their first loads in the morning or when started. In other words, say five or ten teams are sent to haul rock, perhaps one hour is lost by the time the last team has been loaded, so to get a good start let all drivers help loading if allowed. The tables giving distances and cost per yard has allowed for time lost in loading, etc. The longer the haul the more time is lost in teaming, when held to any certain hours. The same trouble applies to all material hauling which has to be loaded by use of shovels.

ARTICLE 68.

SAND HAULING

Hauling one cubic yard sand, teamster loading, $1\frac{1}{4}$ to 3 Miles (10 hours per day):

Distance	No. of Loads	WAGES PER TEAM					TIME TO MAKE LOADS ;				
		\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	
		COST PER CUBIC YARD									
1 1/4 Miles	10	\$.40	\$.42	\$.45	\$.47	\$.50	\$.52	\$.55	\$.57	\$.60	9 hours and 30 minutes per day
3/4 Miles	8	.50	.53	.56	.59	.62	.65	.68	.71	.75	9 hours and 12 minutes per day
1 Mile	7	.57	.60	.64	.67	.71	.75	.78	.81	.85	9 hours and 27 minutes per day
1 1/4 Miles	6	.66	.70	.75	.79	.83	.87	.91	.95	1.00	9 hours and 18 minutes per day
1 1/2 Miles	6	.66	.70	.75	.79	.83	.87	.91	.95	1.00	10 hours and 30 minutes per day
1 3/4 Miles	5	.80	.85	.90	.95	1.00	1.05	1.10	1.15	1.20	9 hours and 45 minutes per day
2 Miles	4	1.00	1.06	1.12	1.18	1.25	1.31	1.37	1.43	1.50	8 hours and 36 minutes per day

wagon in which sand is hauled is to have *unary* used in loading sand.
EXAMPLE.—If the sand costs 50 cents per cubic yard and the cost of team and driver is 50 cents per hour or \$5.00 per day of 10 hours, the cost per hauling, according to the foregoing table, **Article 68, shows** at one mile haul to be 71 3-7 cents plus 50 cents for sand equals \$1.21 3-7 per cubic yard delivered at building.

ARTICLE 69.

SAND HAULING

Hauling 1½ cubic yards per load, ½ mile (10 hours per day)—Basis two teams, one man and teamster loading:

Wages combined.....	\$ 9.00	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50	\$13.00
Cost cubic yd. (cts.).....	.25	.26	.27	.29	.30	.32	.33	.34	.36

Wages combined.....	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00
Cost cubic yd. (cts.).....	.37	.38	.40	.41	.43	.44

ARTICLE 70.

Hauling 1½ cubic yards per load, ¾ miles (10 hours per day)—Basis three teams, one man and teamster loading:

Wages combined.....	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00	\$16.50	\$17.00
Cost cubic yd. (cts.).....	.31	.32	.33	.34	.35	.36	.38	.39	.40
Wages combined.....	\$17.50	\$18.00	\$18.50	\$19.00	\$19.50	\$20.00			
Cost cubic yd. (cts.).....	.41	.42	.44	.45	.46	.47			

ARTICLE 71.

Hauling 1½ cubic yards per load, 1 mile (10 hours per day)—basis four teams, one man and teamster loading:

Wages combined	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$19.50	\$20.00	\$20.50	\$21.00
Cost cubic yd. (cts.) .....	.37	.38	.40	.41	.42	.43	.44	.45	.46
Wages combined.....	\$21.50	\$22.00	\$22.50	\$23.00	\$23.50	\$24.00			
Cost cubic yd. (cts.).....	.47	.48	.50	.51	.52	.53			

ARTICLE 72.

Hauling 1½ cubic yards per load, 1¼ miles (10 hours per day)—basis five teams, one man and teamster loading:

Wages combined.....	\$21.00	\$21.50	\$22.00	\$22.50	\$23.00	\$23.50	\$24.00	\$24.50	\$25.00
Cost cubic yd. (cts.).....	.46	.47	.48	.50	.51	.52	.53	.54	.55
Wages combined.....	\$25.50	\$26.00	\$26.50	\$27.00	\$27.50	\$28.00	\$28.50	\$29.00	
Cost cubic yd. (cts.).....	.56	.57	.58	.60	.61	.62	.63	.64	

ARTICLE 73.

Hauling 1½ cubic yards per load, 1½ miles (10 hours per day)—basis six teams, one man and teamster loading:

Wages combined.....	\$25.00	\$25.50	\$26.00	\$26.50	\$27.00	\$27.50	\$28.00	\$28.50	\$29.00
Cost cubic yd. (ct.).....	.54	.55	.56	.57	.58	.59	.60	.61	.63
Wages combined.....	\$29.50	\$30.00	\$30.50	\$31.00	\$31.50	\$32.00	\$32.50	\$33.00	\$33.50
Cost cubic yd. (cts.).....	.64	.65	.66	.67	.68	.69	.70	.71	.72
Wages combined.....	\$34.00								
Cost cubic yd. (cts.).....	.73								

ARTICLE 74.

Hauling 1½ cubic yards per load, 1¾ miles (10 hours per day)—basis seven teams, one man and teamster loading:

Wages combined.....	\$29.00	\$29.50	\$30.00	\$30.50	\$31.00	\$31.50	\$32.00	\$32.50	\$33.00
Cost cubic yd. (cts.).....	.60	.61	.62	.63	.64	.65	.66	.67	.68
Wages combined.....	\$33.50	\$34.00	\$34.50	\$35.00	\$35.50	\$36.00	\$36.50	\$37.00	\$37.50
Cost cubic yd. (cts.).....	.69	.70	.71	.73	.74	.75	.76	.77	.78
Wages combined.....	\$38.00	\$38.50	\$39.00						
Cost cubic yd. (cts.).....	.79	.80	.81						

ARTICLE 75.

Hauling 1½ cubic yards per load, 2 miles (10 hours per day)—basis eight teams, one man and teamster loading:

Wages combined.....	\$33.00	\$33.50	\$34.00	\$34.50	\$35.00	\$35.50	\$36.00	\$36.50	\$37.00
Cost cubic yd. (cts.).....	.69	.70	.71	.72	.73	.74	.75	.76	.77
Wages combined.....	\$37.50	\$38.00	\$38.50	\$39.00	\$39.50	\$40.00	\$40.50	\$41.00	\$51.04
Cost cubic yd. (cts.).....	.78	.79	.80	.81	.82	.83	.84	.85	.86
Wages combined.....	\$42.00	\$42.50	\$43.00	\$43.50	\$44.00	\$44.50	\$45.00		
Cost cubic yd. (cts.).....	.87	.88	.89	.90	.91	.92	.93		

ARTICLE 76.

Hauling 1½ cubic yards per load, 2¼ miles (10 hours per day)—basis ten teams, one man and teamster loading:

Wages combined.....	\$41.00	\$41.50	\$42.00	\$42.50	\$43.00	\$43.50	\$44.00	\$44.50	\$45.00
Cost cubic yd. (cts.).....	.90	.91	.92	.93	.94	.95	.96	.97	.98
Wages combined.....	\$45.50	\$46.00	\$46.50	\$47.00	\$47.50	\$48.00	\$48.50	\$49.00	\$49.50
Cost cubic yd. (cts.).....	.99	1.00	1.01	1.02	1.03	1.04	1.05	1.06	1.07
Wages combined.....	\$50.00	\$50.50	\$51.00	\$51.50	\$52.00	\$52.50	\$53.00	\$53.50	\$54.00

ARTICLE 77.

Hauling 1½ cubic yards per load, 2¼ miles—basis eleven teams, one man and teamster loading:

Wages combined.....	\$45.00	\$45.50	\$46.00	\$46.50	\$47.00	\$47.50	\$48.00	\$48.50	\$49.00
Cost cubic yd. (cts.).....	.94	.95	.96	.97	.98	.99	1.00	1.01	1.02
Wages combined.....	\$49.50	\$50.00	\$50.50	\$51.00	\$51.50	\$52.00	\$52.50	\$53.00	\$53.50
Cost cubic yd. (cts.).....	1.03	1.04	1.05	1.06	1.07	1.08	1.09	1.10	1.11
Wages combined.....	\$54.00	\$54.50	\$55.00	\$55.50	\$56.00	\$56.50	\$57.00	\$57.50	\$58.00
Cost cubic yd. (cts.).....	1.12	1.13	1.14	1.15	1.16	1.17	1.18	1.19	1.20
Wages combined.....	\$58.50	\$59.00							
Cost cubic yd. (cts.).....	1.21	1.22							

ARTICLE 78.**SAND HAULING**

Hauling 1½ cubic yards per load, 2¼ miles (10 hours per day)—basis twelve teams, one man and teamster loading:

Wages combined.....	\$49.00	\$49.50	\$50.00	\$50.50	\$51.00	\$51.50	\$52.00	\$52.50	\$53.00
Cost cubic yd. (cts.).....	1.07	1.08	1.09	1.10	1.11	1.12	1.13	1.14	1.15
Wages combined.....	\$53.50	\$54.00	\$54.50	\$55.00	\$55.50	\$56.00	\$56.50	\$57.00	\$57.50
Cost cubic yd. (cts.).....	1.16	1.17	1.18	1.19	1.20	1.21	1.22	1.23	1.24
Wages combined.....	\$58.00	\$58.50	\$59.00	\$59.50	\$60.00	\$60.50	\$61.00	\$61.50	\$62.00
Cost cubic yd. (cts.).....	1.25	1.26	1.27	1.28	1.29	1.30	1.31	1.32	1.33
Wages combined.....	\$62.50	\$63.00	\$63.50	\$64.00					
Cost cubic yd. (cts.).....	1.34	1.35	1.36	1.37					

ARTICLE 79.

Hauling 1½ cubic yard per load, 3 miles (10 hours per day)—basis thirteen teams, one man and teamster loading:

Wages combined.....	\$53.00	\$53.50	\$54.00	\$54.50	\$55.00	\$55.50	\$56.00	\$56.50	\$57.00
Cost cubic yd. (cts.).....	1.17	1.18	1.19	1.20	1.21	1.22	1.23	1.24	1.25
Wages combined.....	\$57.50	\$58.00	\$58.50	\$59.00	\$59.50	\$60.00	\$60.50	\$61.00	\$61.50
Cost cubic yd. (cts.).....	1.26	1.27	1.28	1.29	1.30	1.31	1.32	1.33	1.34
Wages combined.....	\$62.00	\$62.50	\$63.00	\$63.50	\$64.00	\$64.50	\$65.00	\$65.50	\$66.00
Cost cubic yd. (cts.).....	1.35	1.36	1.37	1.38	1.39	1.40	1.41	1.42	1.43
Wages combined.....	\$66.50	\$67.00	\$67.50	\$68.00					
Cost cubic yd. (cts.).....	1.44	1.45	1.46	1.47					

ARTICLE 80.

Hauling 2 cubic yards per load, ½ mile (10 hours per day)—basis two teams, one man and teamster loading:

Wages combined.....	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00	\$10.25	\$10.50	\$10.75	\$11.00
Cost cubic yd. (cts.).....	.21	.22	.22	.23	.23	.24	.25	.25	.26

ARTICLE 81.

Hauling 2 cubic yards per load, $\frac{3}{4}$ mile (10 hours per day)—basis three teams, two men and teamster loading:

Wages combined.....	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00	\$15.25	\$15.50	\$15.75	\$16.00
Cost cubic yd. (cts.).....	.24	.24	.25	.25	.25	.26	.26	.27	.27
Wages combined.....	\$16.25	\$16.50	\$17.00	\$18.00	\$19.00	\$20.00	\$21.00	\$22.00	
Cost cubic yd. (cts.).....	.28	.28	.29	.31	.32	.34	.36	.37	

ARTICLE 82.

Hauling 2 cubic yards per load, 1 mile (10 hours per day)—basis four teams, two men and teamster loading:

Wages combined.....	\$18.00	\$18.25	\$18.50	\$18.75	\$19.00	\$19.25	\$19.50	\$19.75	\$20.00
Cost cubic yd. (cts.).....	.27	.27	.28	.28	.28	.29	.29	.29	.30
Wages combined.....	\$20.25	\$20.50	\$21.00	\$22.00	\$23.00	\$24.00	\$25.00	\$26.00	
Cost cubic yd. (cts.).....	.30	.31	.31	.33	.34	.36	.37	.39	

ARTICLE 83.

Hauling 2 cubic yards per load, $1\frac{1}{4}$ miles (10 hours per day)—basis five teams, two men and teamster loading:

Wages combined.....	\$22.00	\$22.50	\$23.00	\$23.50	\$24.00	\$24.50	\$25.00	\$25.50	\$26.00
Cost cubic yd. (cts.).....	.34	.35	.35	.36	.37	.38	.39	.39	.40
Wages combined.....	\$26.50	\$27.00	\$27.50	\$28.00	\$29.00	\$30.00	\$31.00		
Cost cubic yd. (cts.).....	.41	.42	.43	.43	.45	.46	.48		

ARTICLE 84.

Hauling 2 cubic yards per load, 1½ miles (10 hours per day)—basis six teams, two men and teamster loading:

Wages combined.....	\$26.00	\$26.50	\$27.00	\$27.50	\$28.00	\$28.50	\$29.00	\$29.50	\$30.00
Cost cubic yd. (cts.) .....	.39	.40	.40	.41	.42	.43	.43	.44	.45
Wages combined.....	\$30.50	\$31.00	\$31.50	\$32.00	\$32.50	\$33.00	\$33.50	\$34.00	\$34.50
Cost cubic yd. (cts.).....	.46	.46	.47	.48	.49	.50	.50	.51	.52
Wages combined.....	\$35.00	\$35.50	\$36.00						
Cost cubic yd. (cts.).....	.53	.53	.54						

ARTICLE 85.

Hauling 2 cubic yards per load, 1¼ miles (10 hours per day)—basis seven teams, two men and teamster loading:

Wages combined.....	\$30.00	\$30.50	\$31.00	\$31.50	\$32.00	\$32.50	\$33.00	\$33.50	\$34.00
Cost cubic yd. (cts.).....	.45	.46	.46	.47	.48	.49	.50	.50	.51
Wages combined.....	\$34.50	\$35.00	\$35.50	\$36.00	\$36.50	\$37.00	\$37.50	\$38.00	\$38.50
Cost cubic yd. (cts.).....	.52	.53	.53	.54	.55	.56	.56	.57	.58
Wages combined.....	\$39.00	\$39.50	\$40.00	\$40.50	\$41.00	\$41.50	\$42.00	\$42.50	\$43.00

Hauling 2 cubic yards per load, 2 miles (10 hours per day)—basis eight teams, two men and teamster loading:

Wages combined.....	\$34.00	\$34.50	\$35.00	\$35.50	\$36.00	\$36.50	\$37.00	\$37.50	\$38.00
Cost cubic yd. (cts.).....	.51	.52	.53	.53	.54	.55	.56	.56	.57
Wages combined.....	\$38.50	\$39.00	\$39.50	\$40.00	\$40.50	\$41.00	\$41.50	\$42.00	\$42.50
Cost cubic yd. (cts.).....	.58	.59	.59	.60	.61	.62	.62	.63	.64
Wages combined.....	\$43.00	\$43.50	\$44.00	\$44.50	\$45.00	\$45.50	\$46.00		
Cost cubic yd. (cts.).....	.65	.65	.66	.67	.68	.68	.67		

ARTICLE 87.

SAND HAULING

Hauling 2 cubic yards per load, $2\frac{1}{4}$ miles (10 hours per day)—basis nine teams, two men and teamster loading:

Wages combined.....	\$38.00	\$38.50	\$39.00	\$39.50	\$40.00	\$40.50	\$41.00	\$41.50	\$42.00
Cost cubic yd. (cts.).....	.59	.60	.60	.61	.62	.63	.64	.64	.65
Wages combined.....	\$42.50	\$43.00	\$43.50	\$44.00	\$44.50	\$45.00	\$45.50	\$46.00	\$46.50
Cost cubic yd. (cts.).....	.66	.67	.68	.68	.69	.70	.71	.71	.72
Wages combined.....	\$47.00	\$47.50	\$48.00	\$48.50	\$49.00	\$49.50	\$50.00	\$50.50	\$51.00
Cost cubic yd. (cts.).....	.73	.74	.75	.75	.76	.77	.78	.78	.79

ARTICLE 88

Hauling 2 cubic yards per load, 2½ miles (10 hours per day)—basis ten teams, two men and teams-ter loading:

Wages combined.....	\$42.00	\$42.50	\$43.00	\$43.50	\$44.00	\$44.50	\$45.00	\$45.50	\$46.00
Cost cubic yd. (cts.).....	.65	.66	.67	.68	.68	.69	.70	.71	.71
Wages combined.....	\$46.50	\$47.00	\$47.50	\$48.00	\$48.50	\$49.00	\$49.50	\$50.00	\$50.50
Cost cubic yd. (cts.).....	.72	.73	.74	.75	.75	.76	.77	.78	.78
Wages combined.....	\$51.00	\$51.50	\$52.00	\$52.50	\$53.00	\$53.50	\$54.00	\$55.00	\$56.00
Cost cubic yd. (cts.).....	.79	.80	.81	.82	.82	.83	.84	.85	.87

ARTICLE 89.

Hauling 2 cubic yards per load, 2¾ Wiles (10 hours per day)—basis eleven teams, two men and teams-ter loading:

Wages combined.....	\$46.00	\$46.50	\$47.00	\$47.50	\$48.00	\$48.50	\$49.00	\$49.50	\$50.00
Cost cubic yd. (cts.).....	.74	.75	.75	.76	.77	.78	.79	.79	.80
Wages combined.....	\$50.50	\$51.00	\$51.50	\$52.00	\$52.50	\$53.00	\$53.50	\$54.00	\$54.50
Cost cubic yd. (cts.).....	.81	.82	.83	.83	.84	.85	.86	.87	.87
Wages combined.....	\$55.00	\$55.50	\$56.00	\$56.50	\$57.00	\$57.50	\$58.00	\$59.00	\$60.00
Cost cubic yd. (cts.).....	.88	.89	.90	.90	.91	.92	.93	.94	.95

Hauling 2 cubic yards per load, 3 miles (10 hours per day)—basis twelve teams, two men and teams-
ber loading:

Wages combined.....	\$50.00	\$50.50	\$51.00	\$51.50	\$52.00	\$52.50	\$53.00	\$53.50	\$54.00
Cost cubic yd. (cts.).....	.80	.81	.82	.83	.83	.84	.85	.86	.87
Wages combined.....	\$54.50	\$55.00	\$55.50	\$56.00	\$56.50	\$57.00	\$57.50	\$58.00	\$58.50
Cost cubic yd. (cts.).....	.87	.88	.89	.90	.91	.91	.92	.93	.94
Wages combined.....	\$59.00	\$59.50	\$60.00	\$61.00	\$62.00	\$63.00	\$64.00	\$65.00	\$66.00
Cost cubic yd. (cts.).....	.95	.95	.96	.98	1.00	1.01	1.03	1.04	1.06

Add cost of sand to the foregoing prices on hauling.

The prices given on sand hauling will give approximately the number of teams and men loading; also the cost approximately per cubic yard for hauling $\frac{1}{2}$ mile to 3 miles and return. The writer knows in giving the foregoing prices that it is approximately given because the class of labor, teams and conditions of roads depends on the cost of hauling, but we believe the foregoing prices to be very close to what it will cost. The little variation in cost given will be very little, therefore, for a guide, it will give us a very good idea what it will cost to unload a car or deliver sand from any fixed distance to place of delivery. For example; We will say a car of sand holding 35 cubic yards and the distance of hauling is 1 mile and $1\frac{1}{2}$ cubic yards at each load. To find the cost, we turn to Article 71, which shows four teams, say \$5.00 per day equals \$20.00, besides the teamster to load, say wages \$1.50 per day, combining these wages makes \$21.50. We find \$21.50 in Article 71, which shows the cost per cubic yard 47 7-9 cents times 35 yards equals \$16.72 2-9.

ARTICLE 91.

CEMENT HAULING

From car to deposit, ½ mile—basis two men and teamster loading, two men and teamster unloading (10 hours per day), two teams hauling 50 sacks per load or 12½ barrels, 4,850 pounds in sacks, 5,000 pounds in barrels:

Wages combined.....	\$12.00	\$12.50	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00
Cost, sack (cts.).....	.01	1 1-28	1 1-12	.01½	.01½	1 5-24	.01¼	1 7-24	.01½
Cost, barrel (cts.).....	.04	.04½	.04½	.04½	.04½	4 5-6	.05	.05½	.05½
Wages combined.....	\$16.50	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$19.50	\$20.00	\$20.50
Cost, sack (cts.).....	1 9-24	1 5-12	1 11-24	.01½	1 13-24	1 7-12	.01½	.01¾	1 17-24
Cost, barrel (cts.).....	.05½	.05½	5 5-6	.06	.06½	.06½	.06½	.06¾	6 5-6
Wages combined.....	\$21.00	\$21.50	\$22.00						
Cost, sack (cts.).....	.01¾	1 19-24	1 5-6						
Cost, barrel (cts.).....	.07	.07½	.07½						

138

ARTICLE 92.

CEMENT HAULING

From car to deposit, 1 mile—basis two men and teamster loading, two men and teamster unloading, three teams hauling, 50 sacks per load or 12½ barrels, 4,850 or 5,000 pounds per load (10 hours per day):

Wages combined.....	\$16.00	\$16.50	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$19.50	\$20.00
Cost, sack (cts.).....	1 9-23	1 10-23	1 11-23	1 12-23	1 13-23	1 14-23	1 15-23	1 16-23	1 17-23
Cost, barrel (cts.).....	5 13-23	5 17-23	5 21-23	6 2-23	6 6-23	6 10-23	6 14-23	6 18-23	6 22-23

Continued on page 139.

Wages combined.....	\$25.00	\$25.50	\$26.00	\$26.50	\$27.00
Cost, sack (cts.).....	2 4-23	2 5-23	2 6-23	2 7-23	2 8-23
Cost, barrel (cts.).....	8 16-23	8 20-23	9 1-23	9 5-23	9 9-23

ARTICLE 93.

1½ Miles from car to deposit—basis two men and teamster loading, two men and teamster unloading (10 hours per day), four teams hauling, 50 sacks per load or 12½ barrels, 4,850 or 5,000 pounds per load:

Wages combined.....	\$20.00	\$20.50	\$21.00	\$21.50	\$22.00	\$22.50	\$23.00	\$23.50	\$24.00
Cost, sack (cts.).....	1 9-11	1 19-22	1 10-11	1 21-22	.02	2 1-22	2 1-11	2 3-22	2 2-11
Cost, barrel (cts.).....	7 3-11	7 5-11	7 7-11	7 9-11	.08	8 2-11	8 4-11	8 6-11	8 8-11
Wages combined.....	\$24.50	\$25.00	\$25.50	\$26.00	\$26.50	\$27.00	\$27.50	\$28.00	\$28.50
Cost, sack (cts.).....	2 5-22	2 3-11	2 7-22	2 4-11	2 9-22	2 5-11	.02½	2 6-11	2 13-22
Cost, barrel (cts.).....	8 10-11	9 1-11	9 3-11	9 5-11	9 7-11	9 9-11	.10	10 2-11	10 4-11

Wages combined.....	\$29.00	\$29.50	\$30.00	\$30.50	\$31.00	\$31.50	\$32.00
Cost, sack (cts.).....	2 7-11	2 15-22	2 8-11	2 17-22	2 9-11	2 19-22	2 10-11
Cost, barrel (cts.).....	10 6-11	10 8-11	10 10-11	11 1-11	11 3-11	11 5-11	11 7-11

ARTICLE 94.

2 Miles from car to deposit—basis two men and teamster loading, two men and teamster unloading, five teams hauling, 50 sacks per load or 12½ barrels, 4,850 or 5,000 pounds per load:

Wages combined.....	\$24.00	\$24.50	\$25.00	\$25.50	\$26.00	\$26.50	\$27.00	\$27.50	\$28.00
Cost, sack (cts.).....	2 2-11	2 5-22	2 3-11	2 7-22	2 4-11	2 9-22	2 5-11	.02½	2 6-11
Cost, barrel (cts.).....	8 8-11	8 10-11	9 1-11	9 3-11	9 5-11	9 7-11	9 9-11	.10	10 2-11
Wages combined.....	\$28.50	\$29.00	\$29.50	\$30.00	\$30.50	\$31.00	\$31.50	\$32.00	\$32.50
Cost, sack (cts.).....	2 13-22	2 7-11	2 15-22	2 8-11	2 17-22	2 9-11	2 19-22	2 10-11	2 21-22
Cost, barrel (cts.).....	10 4-11	10 6-11	10 8-11	10 10-11	11 1-11	11 3-11	11 5-11	11 7-11	11 9-11
Wages combined.....	\$33.00	\$33.50	\$34.00	\$34.50	\$35.00	\$35.50	\$36.00	\$36.50	\$37.00
Cost, sack (cts.).....	.03	3 1-22	3 1-11	3 3-22	3 2-11	3 5-22	3 3-11	3 7-22	3 4-11
Cost, barrel (cts.).....	.12	12 2-11	12 4-11	12 6-11	12 8-11	12 10-11	13 1-11	13 3-11	13 5-11

ARTICLE 95.

2½ Miles from car to deposit—basis two men and teamster loading, two men and teamster unloading, seven teams hauling, 50 sacks per load or 12½ barrels, 4,850 or 5,000 pounds per load:

Wages combined.....	\$32.00	\$32.50	\$33.00	\$33.50	\$34.00	\$34.50	\$35.00	\$35.50	\$36.00
Cost, sack (cts.).....	.02¾	.02¾	.02¾	2 19-24	2 5-6	.02¾	2 11-12	2 23-24	.03
Cost, barrel (cts.).....	.10¾	10 5-6	.11	.11¾	.11¾	.11¾	.11¾	11 5-6	.12
Wages combined.....	\$36.50	\$37.00	\$37.50	\$38.00	\$38.50	\$39.00	\$39.50	\$40.00	\$40.50
Cost, sack (cts.).....	3 1-24	3 1-12	.03¾	.03¾	3 5-24	.03¾	3 7-24	.03¾	.03¾
Cost, barrel (cts.).....	.12¾	.12¾	.12¾	.12¾	12 5-6	.13	.13¾	.13¾	.13¾

Continued on page 141.

Wages combined.....	\$45.50	\$46.00	\$47.00
Cost, sack (cts.).....	3 19-24	3 5-6	3 11-12
Cost, barrel (cts.).....	15 1/2	15 1/2	15 3/4

ARTICLE 96.

3 Miles from car to deposit—basis two men and teamster loading, two men and teamster unloading, eight teams hauling, 50 sacks per load or 12½ barrels, 4,850 or 5,000 pounds per load:

Wages combined.....	\$36.00	\$36.50	\$37.00	\$37.50	\$38.00	\$38.50	\$39.00	\$39.50	\$40.00
Cost, sack (cts.).....	.03	3 1-24	3 1-12	.03½	.03½	3 5-24	.03¾	3 7-24	.03½
Cost, barrel (cts.).....	.12	.12½	.12½	.12½	.12½	12 5-6	.13	.13½	.13½
Wages combined.....	\$40.50	\$41.00	\$41.50	\$42.00	\$42.50	\$43.00	\$43.50	\$44.00	\$44.50
Cost, sack (cts.).....	.03¾	3 5-12	3 11-24	.03½	3 13-24	3 7-12	.03¾	.03¾	3 11-24
Cost, barrel (cts.).....	.13½	.13¾	13 5-6	.14	.14½	.14½	.14½	.14½	14 5-6
Wages combined.....	\$45.00	\$45.50	\$46.00	\$46.50	\$47.00	\$47.50	\$48.00	\$48.50	\$49.00
Cost, sack (cts.).....	.03¾	3 19-24	3 5-6	.03¾	3 11-12	3 23-24	.04	4 1-24	4 1-12
Cost, barrel (cts.).....	.15	.15½	.15½	.15½	.15½	15 5-6	.16	.16½	.16½
Wages combined.....	\$50.00	\$51.00	\$52.00						
Cost, sack (cts.).....	.04½	.04½	.04½						
Cost, barrel (cts.).....	.16¾	.17	.17½						

Add to the foregoing prices on cement hauling, the cost of cement; also the freight, if any. In large cities or towns, the contractors generally find cement dealers who will give very reasonable prices on cement delivered at site. In small towns you may be required to buy the cement from the manufacturer or agents of some certain cement specified which would require the contractor to hire teams and men to unload the cement and deliver it; therefore, in such cases, the prices given in cement hauling may be a guide in knowing the worth to unload cars, etc. For example: We will say a car has 800 sacks cement or 200 barrels and to be hauled $1\frac{1}{2}$ miles; we turn to Article 93 which gives the cost at $1\frac{1}{2}$ miles, four teams hauling at \$5.00 equals \$20.00, two men loading and two men unloading at \$2.00 per day, four times \$2.00 equals \$8.00; \$20.00 plus \$8.00 equals \$28.00 combined, which cost shows 2 6-11 cents per sack, 800 times 2 6-11 equals \$20.36 4-11 per the 800 sacks.

PACKING AND SHIPPING CEMENT

Cement is packed in barrels, grain or cloth sacks or paper bags as ordered.

A barrel of Portland cement weighs about 400 pounds gross or 380 pounds of cement.

A sack of Portland cement weighs about 97 pounds gross or 95 pounds of cement.

A barrel of Portland cement contains four sacks or bags of cement.

A barrel empty weighs, including head, about 20 pounds.

A sack or bag, when empty, weighs about $1\frac{1}{2}$ pounds.

A carload of Portland cement usually means 100 barrels or 40,000 pounds.

A car of 80,000 capacity will hold 200 barrels or 800 sacks or bags.

When cement is ordered in burlap sacks, the sacks are charged at cost, viz.: 10 cents each, in addition to cost of the cement, but when the sacks are returned in good condition, freight prepaid, 10 cents each.

For paper bags there is no charge as they are not returned. Empty sacks to be returned should be and fifty sacks per bundle, giving the name of sender and from where and full address

ARTICLE 97.

CONCRETE WORK

EXPENSE ACCOUNT SUPERINTENDENT, FOREMAN, ENGINEER, TIMEKEEPER, MATERIAL CLERK AND WATER CARRIER

Add one or more of the above named as required on the work and combine their wages and then find the cost per cubic yard as to the amount of concrete expected to turn out each day, which is to be added to the cost of concrete for mixing and depositing; this will give the cost per yard for all labor. Then to get the total cost of concrete per yard in place, add cost of material.

WAGES COMBINED FOR ONE OR ALL THE ABOVE SALARIED FORCE (1 DAY)														
No. Yards Per Day	\$ 1.00	\$ 2.00	\$ 3.00	\$ 4.00	\$ 5.00	\$ 6.00	\$ 7.00	\$ 8.00	\$ 9.00	\$ 10.00				
COST PER CUBIC YARD (CENTS)														
50	2	4	6	8	10	12	14	16	18	20				
60	1 1/2	3 1/3	5	6 2/3	8 1/3	10	11 2/3	13 1/3	15	16 2/3				
70	1 3-7	2 6-7	4 2-7	5 5-7	7 1-7	8 4-7	10	11 3-7	12 6-7	14 2-7				
80	1 1/4	2 1/2	3 3/4	5	6 1/4	7 1/2	8 3/4	10	11 1/4	12 1/2				
90	1 1-9	2 2-9	3 1/3	4 4-9	5 5-6	6 2/3	7 7/8	8 8-9	10	11 1-9				
100	1	2	3	4	5	6	7	8	9	10				
110	1 9-11	2 8-11	3 7-11	4 6-11	5 5-11	6 4-11	7 3-11	8 2-11	8 2-11	9 1-11				
120	.....	1 2/3	2 1/2	3 1/3	4 1/3	5	5 5-6	6 2/3	7 1/3	8 1/3			

Continued on page 144.

No. Yards Per day		WAGES COMBINED FOR ONE OR ALL THE ABOVE SALARIED FORCE (1 DAY)											
		\$ 1.00	\$ 2.00	\$ 3.00	\$ 4.00	\$ 5.00	\$ 6.00	\$ 7.00	\$ 8.00	\$ 9.00	\$ 10.00		
COST PER CUBIC YARD (CENTS)													
130	.....	1 7-13	2 4-13	3 1-13	3 1-13	3 11-13	4 8-13	5 5-13	6 2-13	6 12-13	7 9-13		
140	.....	1 3-7	2 1-7	2 6-7	2 6-7	3 4-7	4 2-7	5	5 5-7	6 3-7	7 1-7		
150	.....	1 1/8	2	2 3/8	2 3/8	3 1/8	4	4 3/8	5 1/8	6	6 3/8		
160	.....	1 1/4	1 1/4	2 1/2	2 1/2	3 1/2	3 3/4	4 3/8	5	5 5/8	6 1/2		
170	.....	1 3-17	1 13-17	2 6-17	2 6-17	2 16-17	3 9-17	4 2-17	4 12-17	5 5-17	5 15-17		
180	.....	1 1-9	1 9-17	2 2-9	2 2-9	2 7-9	3 3/8	3 8-9	4 4-9	5	5 5-9		
190	.....	1 1-19	1 11-19	2 2-19	2 2-19	2 12-19	3 3-19	3 13-19	4 4-19	4 14-19	5 5-19		
200	.....	1	1 1/2	2	2	2 1/2	3	3 1/2	4	4 1/2	5		
210	.....	.....	1 1-7	1 19-21	1 19-21	2 8-21	2 6-7	3 3/8	3 17-21	4 2-7	4 16-21		
220	.....	.....	1 4-11	1 9-11	1 9-11	2 3-11	2 8-11	3 2-11	3 7-11	4 1-11	4 6-11		
230	.....	.....	1 7-23	1 17-23	1 17-23	2 4-23	2 14-23	3 1-23	3 11-23	3 21-23	4 8-23		
240	.....	.....	1 1/4	1 3/8	1 3/8	2 1-12	2 1/2	2 11-12	3 3/8	3 3/4	4 3/8		
250	.....	.....	1 1-5	1 3-5	1 3-5	2	2 2-5	2 4-5	3 1-5	3 3-5	4		

No. Yards Per Day	COST PER CUBIC YARD (CENTS)												\$19.00	\$20.00
	\$11.00	\$12.00	\$13.00	\$14.00	\$15.00	\$16.00	\$17.00	\$18.00	\$19.00	\$20.00	\$21.00	\$22.00	\$23.00	\$24.00
50	22	24	26	28	30	32	34	36	38	40				
60	18½	20	21½	23½	25	26½	28½	30	31½	33½				
70	15 5-7	17 1-7	18 4-7	20	21 3-7	22 6-7	24 2-7	25 5-7	27 1-7	28 4-7				
80	13¾	15	16½	17½	18¾	20	21¼	22½	23¾	25				
90	12 2-9	13½	14 4-9	15 5-9	16½	17½	18 8-9	20	21 1-9	22 2-9				
100	11	12	13	14	15	16	17	18	19	20				
110	10	10 10-11	11 9-11	12 8-11	13 7-11	14 6-11	15 5-11	16 4-11	17 3-11	18 2-11				
120	9½	10	10 5-6	11½	12½	13½	14½	15	15 5-6	16½				
130	8 6-13	9 3-13	10	10 10-13	11 7-13	12 4-13	13 1-13	13 11-13	14 8-13	15 5-13				
140	7 6-7	8 7-4	9 2-7	10	10 5-7	11 3-7	12 1-7	12 6-7	13 4-7	14 2-7				
150	7½	8	8½	9½	10	10½	11½	12	12½	13½				
160	6¾	7½	8½	8¾	9¾	10	10½	11¼	11¾	12½				
170	6 8-17	7 1-17	7 11-17	8 4-17	8 14-17	9 7-17	10	10 10-17	11 3-17	11 13-17				
180	6 1-9	6¾	7 2-9	7 7-9	8½	8 8-9	9 4-9	10	10 5-9	11 1-9				
190	5 15-19	6 6-19	6 6-19	7 7-19	7 17-19	8 8-19	8 18-19	9 9-19	10	10 10-19				
200	5½	6	6½	7	7½	8	8½	9	9½	10				
210	5 5-21	5 5-7	6 4-21	6¾	7 1-7	7 13-21	8 2-21	8 4-7	9 1-21	9 11-21				
220	5	5 5-11	5 10-11	6 4-11	6 9-11	7 3-11	7 8-11	8 2-11	8 7-11	9 1-11				
230	4 18-23	5 5-23	5 15-23	6 2-23	6 12-23	6 22-23	7 9-23	7 19-23	8 6-23	8 16-23				
240	4 7-12	5	5 5-12	5 10-12	6¼	6¾	7 1-12	7½	7 11-12	8½				
250	4 2-5	4 4-5	5 1-5	5 3-5	6	6 2-5	6 4-5	7 1-5	7 3-5	8				

WAGES COMBINED FOR ONE OR ALL THE ABOVE SALARIED FORCE (1 DAY)

No. Yards Per Day	\$21.00	\$22.00	\$23.00	\$24.00	\$25.00	\$26.00	\$27.00	\$28.00	\$29.00	\$30.00
	COST PER CUBIC YARD (CENTS)									
50	2	44	46	48	50	52	54	56	58	60
60	35	36 $\frac{3}{8}$	38 $\frac{1}{2}$	40	41 $\frac{1}{2}$	43 $\frac{1}{8}$	45	46 $\frac{3}{8}$	48 $\frac{1}{8}$	50
70	30	31 3-7	32 6-7	34 2-7	35 5-7	37 1-7	38 4-7	40	41 3-7	42 6-7
80	26 $\frac{1}{4}$	27 $\frac{1}{2}$	28 $\frac{3}{4}$	30	31 $\frac{1}{4}$	32 $\frac{1}{2}$	33 $\frac{3}{4}$	35	36 $\frac{1}{4}$	37 $\frac{1}{2}$
90	23 $\frac{1}{2}$	24 4-9	25 5-9	26 $\frac{3}{8}$	27 7-9	28 8-9	30	31 1-9	32 2-9	33 $\frac{1}{8}$
100	21	22	23	24	25	26	27	28	29	30
110	19 1-11	20	20 10-11	21 9-11	22 8-11	23 7-11	24 6-11	25 5-11	26 4-11	27 3-11
120	17 $\frac{1}{2}$	18 $\frac{1}{2}$	19 $\frac{1}{2}$	20	20 5-6	21 $\frac{3}{8}$	22 $\frac{1}{2}$	23 $\frac{1}{8}$	24 $\frac{1}{8}$	25
130	16 2-13	16 12-13	17 9-13	18 6-13	19 3-13	20	20 10-13	21 7-13	22 4-13	23 1-13
140	15	15 5-7	16 2-7	17 1-7	17 6-7	18 4-7	19 2-7	20	20 5-7	21 3-7
150	14	14 $\frac{3}{8}$	15 $\frac{1}{8}$	16	16 $\frac{3}{8}$	17 $\frac{1}{8}$	18	18 $\frac{3}{8}$	19 $\frac{1}{8}$	20
160	13 $\frac{1}{8}$	13 $\frac{3}{8}$	14 $\frac{3}{8}$	15	15 $\frac{3}{8}$	16 $\frac{1}{4}$	16 $\frac{3}{8}$	17 $\frac{1}{2}$	18 $\frac{1}{8}$	18 $\frac{3}{4}$
170	12 6-17	12 16-17	13 9-17	14 2-17	14 12-17	15 5-17	15 15-17	16 8-17	17 1-17	17 11-17
180	11 $\frac{3}{8}$	12 2-9	12 7-9	13 $\frac{1}{8}$	13 8-9	14 4-9	15	15 5-9	16 1-9	16 $\frac{3}{8}$
190	11 1-19	11 11-19	12 2-9	12 12-19	13 3-19	13 13-19	14 4-19	14 14-19	15 5-19	15 15-19
200	10 $\frac{1}{2}$	11	11 $\frac{1}{2}$	12	12 $\frac{1}{2}$	13	13 $\frac{1}{2}$	14	14 $\frac{1}{2}$	15
210	10	10 10-21	10 20-21	11 3-7	11 19-21	12 8-21	12 6-7	13 $\frac{1}{8}$	13 17-21	14 2-7
										13 7-11

walls, piers, girders, floors, roofs, etc., rods or bars are mostly used. For cheap buildings galvanized wire is used for floor construction when spans are not great. This same wire is used on sub floors of wood where concrete base is laid for tile floors, etc. When estimating on re-inforced concrete buildings, great care should be taken in reading the specifications and plans, thus being able to take from the plans and details the correct amount of material, noting the kind of iron or steel used, sizes and quantity needed, the cost of same delivered; also the cost of erecting same, the amount of concrete required, cost of material delivered, cost of labor mixing, delivering and depositing in place, how the material will be raised or delivered in place, how scaffolding, runways, etc., are to be placed and cost of lumber and labor for same. The next important item to know is how much lumber will be required to carry out the work, how much of this lumber can be re-used for form work and what the expense of carpenter labor will be in erecting all wood forms, etc. To make the right start, get prices on all material delivered at work. For cost of labor on concrete and wood work, we will try and give items of cost on various kinds of re-inforced concrete work.

ITEM No. 1.

CONCRETE RE-INFORCED

Machine mixed, delivered to two cages, steam or electric hoist (8 hours per day) at distance of raising material from first floor to 150 feet, distance from concrete mixer to elevator 75 feet or less, large size concrete wheel barrows used in hoisting concrete. Distance on top floor from cages to deposit, 100 feet average. Description of work, walls, roofs and floors.

TABLE OF COST ON HEAVY WORK WHERE A CONTINUOUS RUN OF CONCRETE IS REQUIRED

ARTICLE 98.

Re-inforced work (8 hours per day).

Wages, hour (cts.).....	.12½	.15½	.18¾	.21¾	.25	.28½	.31¼	.34¾	.37½
Wages combined, 22 men (8 hours)...	\$22.00	\$27.50	\$33.00	\$38.50	\$44.00	\$49.50	\$55.00	\$60.50	\$66.00
Cost for labor, cubic yd. (cts.).....	.55	.68	.82	.96	1.10	1.23	1.37	1.51	1.65
Wages, hour (cts.).....	.40½	.43¾	.46⅞	.50					
Wages combined, 22 men (8 hours)...	\$71.50	\$77.00	\$82.50	\$88.00					
Cost for labor, cubic yd. (cts.).....	1.78	1.92	2.06	2.20					

ARTICLE 99.

COLUMNS, PIERS, GIRDERS, ETC.

Re-inforced odd work (8 hours per day).

Wages, day 8 hours.....	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00
Cost for labor, cubic yd. (cts.).....	.80	1.00	1.20	1.40	1.60	1.80	2.00	2.20	2.40
Wages, day 8 hours.....	\$3.25	\$3.50	\$3.75	\$4.00					
Cost for labor, cubic yd. (cts.).....	2.60	2.80	3.00	3.20					

NOTE.—The foregoing prices on columns, piers, girders, etc., are figured as separate work, having to be done independent of the outer walls, etc., separate runs and scaffoldings, etc. This class of work what we may term odd work runs up in cost, as often times just these odd pieces of work what eats up all the profits on just this class of work, especially when there are a large amount of this class of work. The cost is only

Continued on page 149.

on labor, as the material cost is about the same as in other work unless it is otherwise specified. The writer believes there should be two or three separate columns in your item book for re-inforced concrete, using your judgment on each piece of work what column to enter your items or figures. We may say the foundation walls and first story walls can be built as cheap as any concrete walls. Look in concrete work, see Tables. These walls perhaps are thick, with few openings, etc., being close to the material and concrete mixer. With nothing to do but mix and fill between wood or other class of forms, perhaps the piers or columns can be filled at the same time with little extra expense. Above the first floor your expense begins to run up; the stories perhaps are higher than basement story, there are a number of piers, etc., between windows, a lot of columns to be built. You may not be able to build all these up at the same time; you are doing the heavy walls; you will be required to add on extra men or split your gang. All the material has to be raised by hoisting, your engineer has to be kept working in order to supply what few cubic yards a few men can handle on completing these odd jobs, which perhaps does not require much concrete, but requires a great deal of time for the carpenters in erecting these forms and placing the rods, etc. If your concrete for these small jobs are mixed by machine, perhaps your crew on the mixer is not half the time working, at the same time. It costs for fuel or power about as much as if everything was in full force; therefore, we would suggest on Item No. 2, make cost on heavy work above first floor, because of engine hoist, etc. Item No. 3 would include these expenses and extra cost for labor building piers, columns, girders, etc. We now come to another very important branch of re-inforced concrete work—the carpenter, labor, building, wood forms, how much lumber to be purchased, the kind and sizes best to use, cost and quantity, how much can be replaced on other work and how much will be on hand after the work has been completed. As there are such waste in lumber for forms, we can hardly figure on much being left on hand that is valuable.

For carpenter work, we suggest each wall or piece of work to be taken off separately, so as to get the cost of lumber and labor, accurate. For cost of carpenter labor on re-inforced concrete forms see carpenter

ESTIMATE NO. 96, FOREMAN OVER CONCRETE WORK, TIMEKEEPER, WATER BOY, ETC.

See Article 96, on heavy walls above first story:

Cost combined for one or all.....	\$ 1.00	\$ 2.00	\$ 3.00	\$ 4.00	\$ 5.00	\$ 6.00	\$ 7.00	\$ 8.00	\$ 9.00
Cost cubic yd. (cts.).....	.02	.05	.07	.10	.12	.15	.17	.20	.22
Cost combined for one or all.....	\$10.00	\$11.00	\$12.00	\$13.00	\$14.00	\$15.00	\$16.00	\$17.00	\$18.00
Cost cubic yd. (cts.).....	.25	.27	.30	.32	.35	.37	.40	.42	.45
Cost combined for one or all.....	\$19.00	\$20.00	\$21.00	\$22.00	\$23.00	\$24.00	\$25.00		
Cost cubic yd. (cts.).....	.47	.50	.52	.55	.57	.60	.62		

EXAMPLE: Say the engineer's wages are \$5.00 per day and it requires one-third ton of coal per day at \$3.00 per ton, which for coal amounts to \$1.00 per day. The foreman's wages are \$5.00 per day. These expenses combined, adds \$5.00 plus \$1.00 plus \$5.00 equals \$11.00. We find in Article No. 100 at \$11.00, cost per cubic yard 27½ cents, which add to cost of labor placing concrete, which find in Article 98. We assume the cost of labor per day of 8 hours to be \$2.00 or 25 cents per hour which shows the cost per cubic yard in place to be \$1.10 plus 27½ cents for engineer, fuel, foreman equals \$1.37½ per yard.

CEMENT AND CONCRETE WORKERS' MEMORANDA

Cement, Portland, is a compound consisting of chemically combined lime, silica and alumina.
Cement, Natural, is a cheap brand of hydraulic cement made by grinding limestone and clayey matter together.

Continued on page 151.

Cement is packed in barrels, cloth sacks or paper bags, as follows:

Cement, Portland, weighs per barrel, gross, about.....	400	pounds.
Cement, Portland, weighs per barrel, net, cement, about.....	380	pounds.
Cement, Portland, barrels when empty weighs, about.....	20	pounds.
Cement, Portland, in cloth sacks or bags, net, cement, weighs about.....	95	pounds.
Cement, Portland, cloth sacks weighs.....	1½	pounds.
Cement, Portland, in paper bags is easily broken and cement wasted		
Cement, Portland, ordered in cloth sacks generally gives best results		
Cement, Portland, ordered in cloth sacks; you are charged 8 or 10 cents a piece in addition to cost of cement.		

Cement, Portland, cloth sacks, when freight prepaid on their return to dealers, you are allowed 8 or 10 cents.

Cement, Portland, in paper bags. There are no charges as they are not returned.

Cement, Portland, 4 sacks or bags equals 1 barrel.

Cement, Portland, per barrel or 4 sacks cost \$1.50 to \$2.25; depends on brands and freight.

Cement, Portland, in carload lots, car capacity 30,000, 75 barrels or about 316 sacks

Cement, Portland, in carload lots, car capacity 80,000, 200 barrels or about 842 sacks

Cement, Portland, figure about 1¾ barrels to each yard of concrete mixture 1-3-4.

Cement, Portland, figure about 1 2-5 barrels to each yard of concrete mixture 1-3-5

Cement, Portland, figure about 1½ barrels to each yard of concrete mixture 1-3-6

Cement, Portland, figure about 1 barrel to each yard of concrete mixture 1-3-7

Cement, Portland. The above proportions is approximately as it depends on all the conditions of material.

Continued on page 152.

Cement, Portland, 1 barrel, 1 barrel sand mixed will cover 1 inch thick about 67 square feet, mix. 1-1.
Cement, Portland, 1 barrel, 1 barrel sand mixed will cover $\frac{3}{4}$ inch thick about 90 square feet, mix. 1-1.
Cement, Portland, 1 barrel, 1 barrel sand mixed will cover $\frac{1}{2}$ inch thick about 134 square feet, mix. 1-1.
Cement, Portland, 1 barrel, 2 barrels sand mixed will cover 1 inch thick about 104 square feet, mix. 1-2.
Cement, Portland, 1 barrel, 2 barrels sand mixed will cover $\frac{3}{4}$ inch thick about 139 square feet, mix. 1-2.
Cement, Portland, 1 barrel, 2 barrels sand mixed will cover $\frac{1}{2}$ inch thick about 280 square feet, mix. 1-2.
Cement, Portland, 1 barrel, 3 barrels sand mixed will cover 1 inch thick about 140 square feet, mix. 1-3.
Cement, Portland, 1 barrel, 3 barrels sand mixed will cover $\frac{3}{4}$ inch thick about 187 square feet, mix. 1-3.
Cement, Portland. There are about $3\frac{1}{8}$ bushels to 1 barrel.

Cement, Portland, barrels vary considerably due to weight per cubic foot.

Cement, Portland, packed in barrels ranges 3 to $3\frac{1}{2}$ cubic feet.

Cement, Portland, measured loose in box will yield from barrels, sacks, 4 to $4\frac{1}{2}$ cubic feet loose.

Cement, Portland (English), contains $3\frac{1}{8}$ to $3\frac{1}{2}$ cubic feet packed in barrels.

Cement, Portland. American cost \$1.50 to \$2.25 per barrel; depends on brand and shipping rates.

Cement, Portland, and other cements can be hauled by teams over good roads 50 to 60 sacks per load.
Cement, Portland, and other cements hauled by wagon, 1 mile, wages of teams, \$5.00; labor, \$2.00 for 10 hours cost per sack 2 cents.

Cement, Portland, and other cement hauling, see Articles 91, 92, 93, 94, 95 and 96.

Cement, Portland, can be readily hauled by labor in wheel barrows 2 sacks per load 100 feet, 480 sacks 8 hours.

Cement, Portland, can be readily carried by labor on shoulder, 320 sacks per 8 hours, 100 feet.
Continued on page 153.

Cement, Portland, sacks used each day, report to foreman, as given by cementman.

APPROXIMATELY CEMENT AND CONCRETE WORKERS MEMORANDA

Cement, Natural, or what we term common cement, is lighter than Portland. Weight about 265 pounds cement.

Cement, Natural. The barrel weighs, when empty, including head, about 15 pounds.

Cement, Natural. One barrel when packed, holds about $3\frac{1}{2}$ cubic feet.

Cement, Natural. Cement in sacks usually holds $\frac{1}{2}$ barrel or 3 sacks, 1 barrel.

Cement, Natural, costs per barrel 75 cents to \$1.10; depends on brands and freight.

Cement, Natural. There are various brands, namely: Utica, Akron, Rosendale, Louisville, etc. Sand. One wagon load of 27 cubic feet equals 1 cubic yard.

Sand. One cubic foot, dry and loose, weighs 90 to 110 pounds.

Sand. One cubic yard or 27 cubic feet weighs 2,430 to 2,970 pounds.

Sand. One cubic yard of sand generally averages 2,700 pounds.

Sand. One cubic yard of sand, when hauled from streams 1 to 2 miles, costs \$1.00 to \$1.50.

Sand that has to be shipped, then wagoned to building, costs per cubic yard \$1.50 to \$2.25.

Sand. 22 Cubic feet of pit sand filled loose in carts or wagons weighs 1 ton.

Sand, clean, coarse and sharp is best for all work; fine sand gives weaker bond.

Sand. If a handful of sand dropped into a tumbler of water muddies the water very much, the sand should be washed.

Continued on page 154.

Sand. One man can readily shovel from banks or cars, etc., 22 to 24 cubic yards, 10 hours.

Sand. One team can readily haul at 1 mile with 1 cubic yard per load, 7 loads per 10 hours.

Sand. Four teams can readily haul at 1 mile with man and teamster loading, $1\frac{1}{2}$ cubic yards per load, 45 cubic yards.

Sand. One railroad car will load as per capacity of car, 25 to 30 cubic yards.

Sand hauling and cost per cubic yard at $\frac{1}{2}$ to 3 miles, 1 cubic yard per load, see Article 68.

Sand hauling and cost per cubic yard at $\frac{1}{2}$ to 3 miles, $1\frac{1}{2}$ cubic yards per load, see Articles 69 to 79.

Sand hauling and cost per cubic yard at $\frac{1}{2}$ to 3 miles, 2 cubic yards per load, see Articles 80 to 90.

Sand required approximately for 1 cubic yard of concrete (when mixed 1-3-7), 12 cubic feet.

Sand required approximately for 1 cubic yard of concrete (when mixed 1-3-6), $13\frac{1}{2}$ cubic feet.

Sand required approximately for 1 cubic yard of concrete (when mixed 1-3-5), 17 cubic feet.

Sand required approximately for 1 cubic yard of concrete (when mixed 1-3-4), 21 cubic feet.

Sand required and all other materials varies considerably, owing to class of material and labor.

Sand required and all other materials are wasted more or less in handling; labor gets careless in quantities.

Sand generally costs the least of any material used in making concrete per cubic yard.

Crushed rock for concrete is generally supplied from limestone; depends on locality of stone.

Crushed rock. One man used to breaking limestone with stone breaker will, in 10 hours, break two in size, 2 to $2\frac{1}{2}$ cubic yards.

Crushed rock. One man breaking stone, 2 inch size, costs when labor for 10 hours \$1.50 per day, 60 cents per yard, see Article 28.

Continued on page 155.

Crushed rock costs F. O. B. cars at destination within 100 miles from quarries, \$1.50 to \$2.50 per cubic yard.

Crushed rock. Estimating cost of concrete, get prices from dealers before making up your bid

Crushed rock. One cubic yard of crushed rock weighs 2,400 to 2,550 pounds; depends on rock.

Crushed rock. One team will haul 1, 1½ and 2 cubic yards per load; depends on road.

Crushed rock hauling for distance of 1 mile, team wages \$5.00, labor \$1.50 per 10 hours, cost per cubic yard 65 5-9 cents.

Crushed rock hauling 1½ cubic yards 1 mile, team wages \$5.00, labor \$1.50 per 10 hours, costs per cubic yard 49 cents, see Articles 44 to 55.

Crushed rock hauling 2 cubic yards 1 mile, team wages \$5.00, labor \$1.50 per 10 hours, costs per cubic yard 44 6-11 cents, see Articles 57 to 67.

Crushed rock. One railroad car will hold as per capacity 60,000 to 80,000, 25 to 35 cubic yards. Concrete is an Artificial Stone made by mixing cement mortar with gravel, broken stone, etc.

Cement Wood Work, Forms, Sub Floors, Centers, etc., see Carpenter Work on Re-inforced Concrete.

Concrete, a batch of Concrete is the quantity mixed at one time as per specifications.

CEMENT WORK

Cement walks, floors, driveways, etc., are generally estimated by the square foot or square yard, at a fixed cost per thickness of work.

Curbs, gutters, pier blocks, caps, bases, sills, steps, etc., are figured by the cubic foot or yard; also lineal foot, at fixed prices according to designs, etc.

SQUARE MEASURE

144 Square inches make 1 square foot; 9 square feet make yard, or 1,296 square inches equals 1 square yard

CUBIC OR SOLID MEASURE

1,728 Cubic inches make 1 cubic foot; 27 cubic feet make 1 cubic yard.

CEMENT WALKS, DRIVES, ETC.

The prices of cement walks, driveways, etc., generally includes the necessary excavation, and gravel, sand or cinder foundation, which, if excavation is to be done and hauled, see cost for digging and hauling at distance required as shown in tables. If sand or gravel fill, get prices per cubic yard delivered. If cinders, they may be secured free of charge; perhaps the cost of hauling may be charged. In manufacturing districts, cinders are generally plentiful and they are glad to dispose of them.

TO MAKE CEMENT WALKS

Excavate below grade line to the depth of 12 inches, stake strips, 2x4 inches, solidly on the outside to keep the walk straight, being careful that the level and fall are right. Fill excavation within 4 or 5 inches or as specified for depth of the top of strips with sand, gravel, stone or cinders, after which tamp and wet well, then fill the level tops of strips with concrete as specified for mixture; cement and sand thoroughly mixed, dry and wet, as described, on the making of concrete and ram until the water comes to the surface. Blocks of from 20 to 30 square feet should be separated by tarred paper or cut effectually. It is better to

Continued on page 157.

set, if possible, with stiff mortar made of cement, clean, coarse sand or granite screenings, as specified in mixture, first mixing thoroughly dry and wet. Level it with the straight edge from the top of the strips. After laying awhile, float, and then trowel to a surface; avoid troweling too long or air cracks will result. Never use pure cement for dusting, but equal parts of fine sand and cement mixed, bevel the four sides of each block. Be careful not to break the edges in removing the strips; keep the surface free from dirt and dirty water, that the color may be clear and uniform. Wet the walk thoroughly two or three times a day for six or eight days not allowing anything on until the top has thoroughly set. Protect the surface against hot rays of the sun and against currents of air, if possible; for this purpose, canvas boards can be used (see memoranda on cement and concrete work for capacity to cover top coat).

CURBS

Should have a perfect drainage underneath, same as walk; should be at least 5 inches thick at top and 7 inches at bottom, sloping mostly on the walk or filled side that the filling may overcome the pressure outward on the top of the curb and set in the ground 6 or 8 inches.

COLORING CEMENT WORK

Use only sharp washed sand and clean water mixed thoroughly. The coloring material must not contain acids and must not affect alkalies; only mineral colors are fit to be used. All liquid coloring matter destroys the alkalies of the cement. Usually, coloring matter lessens the strength, therefore, no more should

Continued on page 158.

be used than is absolutely necessary, especially ochres. Ultramarine is an exception. Thirty to forty per cent of this can be used without the strength being materially lessened. In weak additions, it even raises the strength.

A small per cent of Germantown lampblack is considered an advantage, as to ability to resist the elements and on account of its cheapness, the small quantity needed and the pleasant gray color resulting, it is the usual coloring material used.

The kinds and quantities in pounds per 1 sack of cement usually used, are as follows:

Gray—Use Germantown Lampblack.....	$\frac{1}{2}$	pound	to 1 sack of Portland cement.
Black—Use per Oxide of Manganese.....	.10	pounds	to 1 sack of Portland cement.
Blue—Use Ultramarine.....	5	pounds	to 1 sack of Portland cement.
Green—Use Ultramarine.....	6	pounds	to 1 sack of Portland cement.
Red—Use Oxide of Iron.....	6	pounds	to 1 sack of Portland cement.

CEMENT COST

COST OF CEMENT WALKS, FLOORS, DRIVEWAYS, ETC.—TOP COAT

Cement cost per barrel delivered; also cost of cement per square foot and 100 square feet:

ARTICLE 101. MIXTURE ONE PART CEMENT, ONE PART SAND, 1 INCH THICK

Top Coat of 1 Cement, 1 Sand:

Cost, barrel cement.....	\$1.50	\$1.55	\$1.60	\$1.65	\$1.70
Cost of cement, square foot (cta.) .	.02 3-11	.02 23-66	.02 14-33	.02 $\frac{1}{2}$	.02 19-33
Cost of cement, 100 square feet ..	\$2.27 3-11	\$2.34 28-33	\$2.42 14-33	\$2.50	\$2.57 19-33

Continued on page 159.

Cost, barrel cement.....	\$1.75				
Cost of cement, square foot (cts.)	.02 43-66				
Cost of cement, 100 square feet ...	\$2.65 5-33				
Cost, barrel cement.....	\$2.00				
Cost of cement, square foot (cts.)	.03 1-33				
Cost of cement, 100 square feet ...	\$3.03 1-33				

ARTICLE 102. TOP COAT CEMENT MORTARS, ¾ INCH THICK

Mixture 1 and 1:

Cost, barrel cement.....	\$1.50	\$1.55	\$1.60	\$1.65	\$1.70
Cost of cement, square foot (cts.)	.01 ¾	.01 13-18	.01 7-9	.01 5-6	.01 8-9
Cost of cement, 100 square feet ...	\$1.66 ¾	\$1.72 2-9	\$1.77 7-9	\$1.83 ½	\$1.88 8-9
Cost, barrel cement.....	\$1.75	\$1.80	\$1.85	\$1.90	\$1.95
Cost of cement, square foot (cts.)	.01 17-18	.02	.02 1-18	.02 1-9	.02 3-18
Cost of cement, 100 square feet ...	\$1.94 4-9	\$2.00	\$2.05 5-9	\$2.11 1-9	\$2.16 ¾
Cost, barrel cement.....	\$2.00	\$2.25	\$2.50		
Cost of cement, square foot (cts.)	.02 2-9	.02 ½	.02 7-9		
Cost of cement, 100 square feet ...	\$2.22 2-9	\$2.50	\$2.77 7-9		

ARTICLE 103. TOP COAT CEMENT MORTARS, ½ INCH THICK

Mixture 1 and 1:

Cost, barrel cement.....	\$1.50	\$1.55	\$1.60	\$1.65	\$1.70
Cost of cement, square foot (cts.)	.01 1-9	.01 4-27	.01 5-27	.01 2-9	.01 7-27
Cost of cement, 100 square feet ...	\$1.11 1-9	\$1.14 22-27	\$1.18 14-27	\$1.22 2-9	\$1.25 25-27

Continued from page 159

Cost, barrel cement.....	\$1.75	\$1.80	\$1.85	\$1.90	\$1.95
Cost of cement, square foot (cts.) .	.01 8-27	.01 1/8	.01 10-27	.01 11-27	.01 4-9
Cost of cement, 100 square feet ...	\$1.29 17-27	\$1.33 1/8	\$1.37 1-27	\$1.40 20-27	\$1.44 4-9
Cost, barrel cement.....	\$2.00	\$2.25	\$2.50		
Cost of cement, square foot (cts.) .	.01 13-27	.01 3/8	.01 23-27		
Cost of cement, 100 square feet ...	\$1.48 4-27	\$1.66 3/8	\$1.85 5-27		

CEMENT COST

ARTICLE 104.

COST OF CEMENT WALKS, FLOORS, DRIVEWAYS, ETC. TOP COAT CEMENT MORTARS, 1 INCH THICK

Mixture 1 and 2:

Cost, barrel cement.....	\$1.50	\$1.55	\$1.60	\$1.65	\$1.70
Cost of cement, square foot (cts.) .	.01 23-52	.01 51-104	.01 7-13	.01 61-104	.01 33-52
Cost of cement, 100 square feet ...	\$1.44 3-13	\$1.49 1 26	\$1.53 11-13	\$1.58 17-26	\$1.63 6-13
Cost of cement, square foot (cts.) .	.01 71-104	.01 19-26	.01 81-104	.01 43-52	.01 91104
Cost of cement, 100 square feet ...	\$1.44 3-13	\$1.49 1-26	\$1.53 11-13	\$1.58 17-26	\$1.63 6--13

ARTICLE 105.

TOP COAT

Mixture 1 and 2:

Cost, barrel cement.....	\$1.50	\$1.55	\$1.60	\$1.65	\$1.70
Cost of cement, square foot (cts.) .	.01 1-14	.01 3-28	.01 1-7	.01 5-28	.01 3-14
Cost of cement, 100 square feet ...	\$1.07 1-7	\$1.10 5-7	\$1.14 2-7	\$1.17 6-7	\$1.21 3-7
Cost, barrel cement.....	\$1.75	\$1.80	\$1.85	\$1.90	\$1.95
Cost of cement, square foot (cts.) .	.01 ¼	.01 2-7	.01 9-28	.01 5-14	.01 11-28
Cost of cement, 100 square feet ...	\$1.25	\$1.28 4-7	\$1.32 1-7	\$1.35 5-7	\$1.39 2-7
Cost, barrel cement.....	\$2.00	\$2.25	\$2.50		
Cost of cement, square foot (cts.) .	.01 3-7	.01 17-28	.01 11-14		
Cost of cement, 100 square feet ...	\$1.42 6-7	\$1.60 5-7	\$1.78 4-7		

ARTICLE 106.

TOP COAT CEMENT MORTARS, ½ INCH THICK

Mixture 1 and 2:

Cost, barrel cement.....	\$1.50	\$1.55	\$1.60	\$1.65	\$1.70
Cost of cement, square foot (mills)	0.7 11-52	0.7 47-104	0.7 9-13	0.7 97-104	0.8 9-52
Cost of cement, 100 square feet ...	.72 3-26	.74 27-52	.76 12-13	.79 17-52	.81 19-26
Cost barrel cement.....	\$1.75	\$1.80	\$1.85	\$1.90	\$1.95
Cost of cement, square foot (mills)	0.8 43-104	0.8 17-27	0.8 93-104	0.9 7-52	.09 .39-104
Cost of cement, 100 square feet ...	.84 7-52	.86 8-27	.88 49-52	.91 9-26	.93 39-52
Cost, barrel cement.....	\$2.00	\$2.25	\$2.50		
Cost, of cement, square foot (mills)	0.9 16-27	1.17-208	1.21-104		
Cost of cement, 100 square feet	95.25-27	1.08 9-52	1.20 5-26		

ARTICLE 107.

TOP COAT CEMENT MORTARS, 1 INCH THICK

Mixture 1 and 3:

Cost, barrel cement.....	\$1.50	\$1.55	\$1.60	\$1.65	\$1.70
Cost of cement, square foot (cts.) .	.01 1-14	.01 3-28	.01 1-7	.01 5-28	.01 3-14
Cost of cement, 100 square feet ...	\$1.07 1-7	\$1.10 5-7	\$1.14 2-7	\$1.17 6-7	\$1.21 2-7
Cost, barrel cement.....	\$1.75	\$1.80	\$1.85	\$1.90	\$1.95
Cost of cement, square foot (cts.) .	.01 ¼	.01 2-7	.01 9-28	.01 5-14	.01 11-28
Cost of cement, 100 square feet ...	\$1.25	\$1.28 4-7	\$1.32 1-7	\$1.35 5-7	\$1.39 2-7
Cost, barrel cement.....	\$2.00	\$2.25	\$2.50		
Cost of cement, square foot (cts.) .	.01 3-7	.01 17-28	.01 11-14		
Cost of cement, 100 square feet ...	\$1.42 6-7	\$1.60 5-7	\$1.78 4-7		

ARTICLE 108.

TOP COAT CEMENT MORTARS, ¾ INCH THICK

Mixture 1 and 3:

Cost, barrel cement.....	\$1.50	\$1.55	\$1.60	\$1.65	\$1.70
Cost of cement, square foot (mills)	0.8 2-31	0.8 31-93	0.8 56-93	0.8 81-93	0.9 13-93
Cost of cement, 100 square feet ...	.80 20-31	.83 31-93	.86 2-93	.88 22-31	.90 37-93
Cost, barrel cement.....	\$1.75	\$1.80	\$1.85	\$1.90	\$1.95
Cost of cement, square foot (mills)	0.9 38-93	0.9 21-31	0.9 88-93	.01 2-93	.01 3-62
Cost of cement, 100 square feet ...	.94 8-93	.96 24-31	.99 43-93	\$1.02 14-93	\$1.04 26-31

Continued on page 162.

Cost of cement, square foot (mills)	.01 1-23	.01 13-24	.01 32-33
Cost of cement, 100 square feet ...	\$1.07 49-93	\$1.21 9-31	\$1.34 38-93

ARTICLE 109. TOP COAT CEMENT MORTARS, 1/2 INCH THICK

Mixture 1 and 3:

Cost, barrel cement.....	\$1.50	\$1.55	\$1.60	\$1.65	\$1.70
Cost of cement, square foot (mills)	0.5 5-14	0.5 15-28	0.5 5-7	0.5 25-28	0.6 1-14
Cost of cement, 100 square feet ...	.53 4-7	.55 5-14	.57 1-7	.58 13-14	.60 5-7
Cost, barrel cement.....	\$1.75	\$1.80	\$1.85	\$1.90	\$1.95
Cost of cement, square foot (mills)	0.6 1/4	0.6 3-7	0.6 17-28	0.6 11-14	0.6 27-28
Cost of cement, 100 square feet ...	.62 1/2	.64 2-7	.66 1-14	.67 6-7	.69 9-14

Cost, barrel cement.....	\$2.00	\$2.25	\$2.50
Cost of cement, square foot (mills)	0.7 1-7	0.8 1-28	0.8 13-14
Cost of cement, 100 square feet ...	.71 3-7	.80 5-14	.89 2-7

ARTICLE 110.

SAND COST PER CUBIC YARD DELIVERED; ALSO COST OF SAND, MIXED ONE PART CEMENT ONE PART SAND, 1 INCH THICK

(68 Square feet).

Cost cubic yd.....	\$.75	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50
Cost 68 square feet (cts.).....	10 5-7	14 2-7	17 6-7	21 3-7	.25	28 4-7	32 1-7	35 5-7

ARTICLE 111.

SAND COST, MIXED ONE PART CEMENT AND ONE PART SAND, ¼ INCH THICK
(90 Square feet).

Cost, cubic yd.....	\$.75	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50
Cost, 90 square feet (cts.).....	10 5-7	14 2-7	17 6-7	21 3-7	.25	28 4-7	32 1-7	35 5-7

ARTICLE 112.

SAND COST, MIXED ONE PART CEMENT AND ONE PART SAND, ½ INCH THICK
(134 Square feet).

Cost cubic yd. (cts.).....	\$.75	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50
Cost, 134 square feet (cts.).....	10 5-7	14 2-7	17 6-7	21 3-7	.25	28 4-7	32 1-7	35 5-7

ARTICLE 113.

SAND COST, MIXED ONE PART CEMENT, TWO PARTS SAND, 1 INCH THICK
(104 Square feet).

Cost cubic yd.....	\$.75	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50
Cost, 104 square feet (cts.).....	21 3-7	28 4-7	35 5-7	42 6-7	.50	57 1-7	64 2-7	71 3-7

ARTICLE 114.

SAND COST, MIXED ONE PART CEMENT, TWO PARTS SAND, ¾ INCH THICK
(140 Square feet).

ARTICLE 115. COST, MIXED ONE PART CEMENT, TWO PARTS SAND, ½ INCH THICK
SAND

(208 Square feet).

Cost cubic yd.....	\$.75	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50
Cost, 208 square feet (cts.).....	21 3-7	28 4-7	35 5-7	42 6-7	.50	57 1-7	64 2-7	71 3-7

ARTICLE 116.

SAND COST, MIXED ONE PART CEMENT, THREE PARTS SAND, 1 INCH THICK
(140 Square feet).

Cost cubic yd.....	\$.75	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50
Cost, 140 square feet (cts.).....	32 1-7	42 6-7	53 4-7	64 2-7	.75	85 5-7	96 3-7	\$1.07.1-7

ARTICLE 117.

SAND COST, MIXED ONE PART CEMENT, THREE PARTS SAND, ¾ INCH THICK
(186 Square feet).

Cost cubic yd.....	\$.75	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50
Cost, 186 square feet (cts.).....	32 1-7	42 6-7	53 4-7	64 2-7	.75	85 5-7	96 3-7	\$1.07.1-7

ARTICLE 118.

SAND COST, MIXED ONE PART CEMENT, THREE PARTS SAND, ½ INCH THICK
(280 Square feet).

Cost cubic yd.....	\$.75	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50
Cost, 280 square feet (cts.).....	32 1-7	42 6-7	53 4-7	64 2-7	.75	85 5-7	96 3-7	\$1.07.1-7

Cost,

In estimating top coat of cement and sand, figure the number of square feet that has to be laid; take on cement as per mixture specified for cement—say the walk or floor has 180 square feet. Top coat has to be $\frac{3}{4}$ inch thick, mixture one part cement, one part sand. We turn to cost of cement Article 102). We will charge \$2.00 per barrel of cement delivered, which the cost per square foot shows 2 2-9 cents multiplied by the number of square feet to be laid, 180 times 2 2-9 equals \$4.00, cost of cement.

Sand for the same number of feet, $\frac{3}{4}$ inches thick, mixture one part cement, one part sand, see Article 90. We will assume the sand cost \$1.50 per cubic yard, at 90 feet the sand would cost 21 3-7 cents per 90 feet, at 180 square feet, it would require two times 90 equals 180 or two times 21 3-7 cents equals 42 6-7 cents per 180 square feet. Adding the two costs equals \$4.00 cement, 42 6-7 cents sand, \$4.42 6-7 for 180 sq. feet floors or walks, etc., or we will say about 2 1-2 cents per sq. foot for top coat of cement and sand.

CEMENT WORK—Concrete required in 100 square feet at various thickness from 3 to 6 inches:

Square Feet Concrete	Inches Thick	Number of Cubic Feet	Number of Yards	No. of inches Over
100	3	25	.....	25
100	3 $\frac{1}{4}$	27 1-12	1	1 1-12
100	3 $\frac{1}{2}$	29 $\frac{1}{2}$	1	2 $\frac{1}{2}$
100	3 $\frac{3}{4}$	31 $\frac{1}{4}$	1	4 $\frac{1}{4}$
100	4	33 $\frac{1}{2}$	1	6 $\frac{1}{2}$
100	4 $\frac{1}{4}$	35 5-12	1	8 5-12
100	4 $\frac{1}{2}$	37 $\frac{1}{2}$	1	10 $\frac{1}{2}$
100	4 $\frac{3}{4}$	39 7-12	1	12 7-12
100	5	41 $\frac{3}{4}$	1	14 $\frac{3}{4}$
...

Cost of concrete, cubic yd.....	\$ 4.00	\$ 4.25	\$ 4.50	\$ 4.75	\$ 5.00	\$ 5.25
3 Inches, cost 100 square feet.....	\$ 3.70	\$ 3.93	\$ 4.16	\$ 4.39	\$ 4.62	\$ 4.86
3 Inches, cost square foot (cts.).....	3 7-10	3 93-100	4 4-25	4 39-100	4 31-50	4 43-50
Cost of concrete, cubic yd.....	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75
3 Inches, cost 100 square feet.....	\$ 5.09	\$ 5.32	\$ 5.55	\$ 5.78	\$ 6.01	\$ 6.25
3 Inches, cost square foot (cts.).....	5 9-100	5 8-25	5 11-20	5 39-50	6 1-100	.06½
Cost of concrete, cubic yd.....	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25
3 Inches, cost 100 square feet.....	\$ 6.48	\$ 6.71	\$ 6.94	\$ 7.17	\$ 7.40	\$ 7.63
3 Inches, cost square foot (cts.).....	6 12-25	6 71-100	6 94-100	7 17-100	7 2-5	7 63-100
Cost of concrete, cubic yd.....	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75
3 Inches, cost 100 square feet.....	\$ 7.87	\$ 8.10	\$ 8.33	\$ 8.56	\$ 8.79	\$ 9.02
3 Inches, cost square foot (cts.).....	7 87-100	8 1-10	8 33-100	8 14-25	8 79-100	9 1-50
Cost of concrete, cubic yd.....	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	
1 Inches, cost 100 square feet.....	\$ 9.26	\$ 9.72	\$10.18	\$10.64	\$11.11	
1 Inches, cost square foot (cts.).....	9 13-50	9 18-25	10 9-50	10 16-25	11 11-100	
3¼ Inches, cost 100 square feet.....	\$ 4.00	\$ 4.25	\$ 4.50	\$ 4.75	\$ 5.00	\$ 5.25
3¼ Inches, cost square foot (cts.).....	.04	.04¼	.04½	.04¾	.05	.05½

Continued on page 168.

3 1/4 Inches, cost 100 square feet.....	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75
3 3/4 Inches, cost square foot (cts.).....	.05 1/2	.05 3/4	.06	.06 1/4	.06 1/2	.06 3/4
3 1/4 Inches, cost 100 square feet.....	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25
3 3/4 Inches, cost square foot (cts.).....	.07	.07 1/4	.07 1/2	.07 3/4	.08	.08 1/4
3 1/4 Inches, cost 100 square feet.....	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75
3 3/4 Inches, cost square foot (cts.).....	.08 1/2	.08 3/4	.09	.09 1/4	.09 1/2	.09 3/4
3 1/4 Inches, cost 100 square feet.....	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	
3 3/4 Inches, cost square foot (cts.).....	.10	.10 1/2	.11	.11 1/2	.12	
3 1/2 Inches, cost 100 square feet.....	\$ 4.29	\$ 4.56	\$ 4.83	\$ 5.10	\$ 5.37	\$ 5.63
3 3/4 Inches, cost square foot (cts.).....	4 29-100	4 14-25	4 83-100	5 1-10	5 37-100	5 63-100
3 1/2 Inches, cost 100 square feet.....	\$ 5.90	\$ 6.17	\$ 6.44	\$ 6.71	\$ 6.98	\$ 7.25
3 3/4 Inches, cost square foot (cts.).....	5 9-10	6 17-100	6 11-25	6 71-100	6 49-50	.07 1/4
3 1/2 Inches, cost 100 square feet.....	\$ 7.52	\$ 7.80	\$ 8.06	\$ 8.33	\$ 8.59	\$ 8.86
3 3/4 Inches, cost square foot (cts.).....	7 13-25	7 8-10	8 3-50	8 33-100	8 59-100	8 43-50
3 1/2 Inches, cost 100 square feet.....	\$ 9.13	\$ 9.40	\$ 9.67	\$ 9.93	\$10.20	\$10.47
3 3/4 Inches, cost square foot (cts.).....	9 13-100	9 2-5	9 67-100	9 93-100	10 1-5	10 47-100
3 1/2 Inches, cost 100 square feet.....	\$10.75	\$11.28	\$11.81	\$12.35	\$12.89	
3 3/4 Inches, cost square foot (cts.).....	.10 3/4	11 7-25	11 81-100	12 7-20	12 89-100	

Continued on page 169.

4	Inches, cost 100 square feet.....	\$12.23	\$12.84	\$13.45	\$14.06	\$14.67	
4	Inches, cost square foot (cts.).....	12 23-100	12 21-25	13 9-20	14 3-50	14 67-100	
4 1/4	Inches, cost 100 square feet.....	\$ 5.19	\$ 5.51	\$ 5.84	\$ 6.16	\$ 6.49	\$ 6.81
4 1/4	Inches, cost square foot (cts.).....	5 19-100	5 51-100	5 21-25	6 4-25	6 49-100	6 81-100
4 1/4	Inches, cost 100 square feet.....	\$ 7.13	\$ 7.46	\$ 7.78	\$ 8.11	\$ 8.43	\$ 8.75
4 1/4	Inches, cost square foot (cts.).....	7 13-100	7 23-50	7 39-50	8 11-100	8 43-100	.08 3/4
4 1/4	Inches, cost 100 square feet.....	\$ 9.08	\$ 9.40	\$ 9.73	\$10.05	\$10.38	\$10.70
4 1/4	Inches, cost square foot (cts.).....	9 2-25	9 2-5	9 73-100	10 1-20	10 19-50	10 7-10
4 1/4	Inches, cost 100 square feet.....	\$11.02	\$11.35	\$11.64	\$12.00	\$12.32	\$12.64
4 1/4	Inches, cost square foot (cts.).....	11 1-50	11 7-20	11 16-25	.12	12 8-25	12 16-25
4 1/4	Inches, cost 100 square feet.....	\$12.96	\$13.61	\$14.26	\$14.91	\$15.56	
4 1/4	Inches, cost square foot (cts.).....	12 24-25	13 61-100	14 13-50	14 91-100	15 14-25	
4 1/2	Inches, cost 100 square feet.....	\$ 5.55	\$ 5.90	\$ 6.25	\$ 6.60	\$ 6.95	\$ 7.30
4 1/2	Inches, cost square foot (cts.).....	5 11-20	5 9-10	.06 3/4	6 3-5	6 19-20	7 3-10
4 1/2	Inches, cost 100 square feet.....	\$ 7.64	\$ 7.99	\$ 8.33	\$ 8.69	\$ 9.03	\$ 9.38
4 1/2	Inches, cost square foot (cts.).....	7 8-25	7 99-100	8 33-100	8 69-100	9 3-100	9 19-50

4½ Inches, cost 100 square feet.....	\$11.81	\$12.15	\$12.50	\$12.85	\$13.20	\$13.55
4½ Inches, cost square foot (cts.).....	11 81-100	12 3-20	.12½	12 17-20	13 1-5	13 11-20
4¾ Inches, cost 100 square feet.....	\$13.90	\$14.58	\$15.28	\$15.97	\$16.67	
4¾ Inches, cost square foot (cts.).....	13 9-10	14 29-50	15 7-25	15 97-100	16 67-100	
4¾ Inches, cost 100 square feet.....	\$5.85	\$6.22	\$6.50	\$6.96	\$7.32	\$7.69
4¾ Inches, cost square foot (cts.).....	5 17-20	6 11-20	.06½	6 24-25	7 8-25	7 69-100
4¾ Inches, cost 100 square feet.....	\$8.05	\$8.42	\$8.78	\$9.15	\$9.61	\$9.88
4¾ Inches, cost square foot (cts.).....	8 1-20	8 21-50	8 39-50	9 3-20	9 61-100	9 22-25
4¾ Inches, cost 100 square feet.....	\$10.25	\$10.61	\$11.06	\$11.34	\$11.71	\$12.07
4¾ Inches, cost square foot (cts.).....	10¼	10 61-100	11 3-50	11 17-50	11 71-100	12 7-10
4¾ Inches, cost 100 square feet.....	\$12.44	\$12.80	\$13.17	\$13.54	\$13.91	\$14.27
4¾ Inches, cost square foot (cts.).....	12 11-25	12 8-10	13 7-100	13 27-50	13 91-100	14 27-100
4¾ Inches, cost 100 square feet.....	\$14.64	\$15.36	\$16.09	\$16.62	\$17.56	
4¾ Inches, cost square foot (cts.).....	14 16-25	15 9-25	16 9-10	16 31-50	17 14-25	
5 Inches, cost 100 square feet.....	\$6.22	\$6.61	\$7.00	\$7.39	\$7.78	\$8.17
5 Inches, cost square foot (cts.).....	6 11-50	6 61-100	.07	7 39-100	7 39-50	8 17-100
5 Inches, cost 100 square feet.....	\$8.56	\$8.95	\$9.34	\$9.73	\$10.12	\$10.51
5 Inches, cost square foot (cts.).....	8 14-25	8 19-20	9 17-50	9 13-100	10 3-25	10 51-100

Continued on page 172.

5	Inches, cost 100 square feet.....	\$10.90	\$11.28	\$11.67	\$12.05	\$12.44	\$12.83
5	Inches, cost square foot (cts.).....	10 9-10	11 7-25	11 67-100	12 1-20	12 11-25	12 83-100
5	Inches, cost 100 square feet.....	\$13.22	\$13.61	\$14.00	\$14.39	\$14.78	\$15.16
5	Inches, cost square foot (cts.).....	13 11-50	13 61-100	.14	14 39-100	14 39-50	15 4-25
5	Inches, cost 100 square feet.....	\$15.55	\$16.34	\$17.11	\$17.89	\$19.67	
5	Inches, cost square foot (cts.).....	15 11-20	16 17-50	17 11-100	17 89-100	19 67-100	
5 1/4	Inches, cost 100 square feet.....	\$ 6.52	\$ 6.93	\$ 7.33	\$ 7.74	\$ 8.14	\$ 8.55
5 1/4	Inches, cost square foot (cts.).....	6 13-25	6 93-100	7 33-100	7 37-50	8 7-50	8 11-20
5 1/4	Inches, cost 100 square feet.....	\$ 8.96	\$ 9.37	\$ 9.77	\$10.18	\$10.59	\$11.00
5 1/4	Inches, cost square foot (cts.).....	8 24-25	9 37-100	9 77-100	10 9-50	10 59-100	.11
5 1/4	Inches, cost 100 square feet.....	\$11.40	\$11.81	\$12.22	\$12.63	\$13.03	\$13.44
5 1/4	Inches, cost square foot (cts.).....	11 2-5	11 81-100	12 11-50	12 63-100	13 3-100	13 11-25
5 1/4	Inches, cost 100 square feet.....	\$13.85	\$14.26	\$14.67	\$15.07	\$15.48	\$15.89
5 1/4	Inches, cost square foot (cts.).....	13 17-50	14 13-50	14 67-100	15 7-100	15 12-25	15 89-100
5 1/4	Inches, cost 100 square feet.....	\$16.29	\$17.11	\$17.92	\$18.74	\$19.55	
5 1/4	Inches, cost square foot (cts.).....	16 29-100	17 11-100	17 23-25	18 37-50	19 11-50	
5 1/4	Inches, cost 100 square feet.....	\$ 6.81	\$ 7.24	\$ 7.66	\$ 8.09	\$ 8.52	\$ 8.94
5 1/4	Inches, cost square foot (cts.).....	6 81-100	7 6-25	7 33-50	8 9-100	8 13-25	8 47-50

Continued on page 173.

6	Inches, cost 100 square feet.....	\$ 7.41	\$ 7.87	\$ 8.33	\$ 8.80	\$ 9.26	\$ 9.72
6	Inches, cost square foot (cts.).....	7 41-100	7 87-100	8 33-100	8 4-5	9 13-50	9 18-25
6	Inches, cost 100 square feet.....	\$10.19	\$10.65	\$11.11	\$11.57	\$12.04	\$12.50
6	Inches, cost square foot (cts.).....	10 19-100	10 13-50	11 11-100	11 51-100	12 1-25	12 1/2
6	Inches, cost 100 square feet.....	\$12.96	\$13.43	\$13.89	\$14.35	\$14.82	\$15.28
6	Inches, cost square foot (cts.).....	12 24-25	13 43-100	13 89-100	14 7-20	14 41-50	15 7-25
6	Inches, cost 100 square feet.....	\$15.74	\$16.20	\$16.67	\$17.13	\$17.59	\$18.06
6	Inches, cost square foot (cts.).....	15 37-50	16 1-5	16 67-100	17 13-100	17 59-100	18 3-50
6	Inches, cost 100 square feet.....	\$18.52	\$19.45	\$20.37	\$21.30	\$22.22	
6	Inches, cost square foot (c5s.).....	18 13-25	19 9-20	20 37-100	20 3-10	22 11-50	

CEMENT WORK

COST OF SAND, GRAVEL OR CINDER FILLING OR BED FOR WALKS, FLOORS, ETC.

(Thickness 3 to 6 Inches, Fill or Bed)

Cost of sand, etc., cubic yd. (cts.).....	\$.50	\$.75	\$1.00	\$1.25	\$1.50
Cost of sand, etc., cubic yd. (cts.).....	\$1.75	\$2.00	\$2.25	\$2.50	
3 Inches, cost of sand, etc., 100 square feet (cts.).....	.47	.70	.93	\$1.16	\$1.39
3 Inches, cost square foot (mills).....	4 7-10	0.7	9 3-10	1 4-25	1 39-100
3 Inches, cost of sand, etc., 100 square feet (cts.).....	\$1.62	\$1.85	\$2.08	\$2.31	
3 Inches, cost square foot (mills).....	1 31-50	1 17-20	2 2-25	2 31-100	

Continued on page 175.

3¼ Inches, cost of sand, etc., 100 square feet (cts.).	\$.50	\$.75	\$1.00	\$1.25	\$1.50
3¼ Inches, cost square foot (mills).	0.5	0.7½	.1	.1¼	.1½
3¼ Inches, cost of sand, etc., 100 square feet (cts.).	\$1.75	\$2.00	\$2.25	\$2.50	
3¼ Inches, cost square foot (mills).	.1¼	.02	.1¼	...2½	
3¼ Inches, cost of sand, etc., 100 square feet (cts.).	\$.53	\$.80	\$1.07	\$1.32	\$1.61
3¼ Inches, cost square foot (mills).	5 3-10	0.8	1 7-100	1 8-25	1 61-100
3¼ Inches, cost of sand, etc., 100 square feet (cts.).	\$1.88	\$2.15	\$2.42	\$2.69	
3¼ Inches, cost square foot (mills).	1 22-25	2 3-20	2 21-50	2 69-100	
3¼ Inches, cost of sand, etc., 100 square feet (cts.).	\$.57	\$.86	\$1.15	\$1.44	\$1.72
3¼ Inches, cost square foot (mills).	5 7-10	8 3-5	1 3-20	1 11-25	1 18-25
3¼ Inches, cost of sand, etc., 100 square feet (cts.).	\$2.01	\$2.30	\$2.58	\$2.87	
3¼ Inches, cost square foot (mills).	2 1-100	2 3-100	2 29-50	2 87-100	
4 Inches, cost of sand, etc., 100 square feet (cts.).	\$.61	\$.92	\$1.23	\$1.53	\$1.84
4 Inches, cost square foot (mills).	6 1-10	9 1-5	1 23-100	1 53-100	1 21-25
4 Inches, cost of sand, etc., 100 square feet (cts.).	\$2.14	\$2.45	\$2.75	\$3.06	
4 Inches, cost square foot (mills).	2 7-50	2 9-20	2 ¾	3 3-50	
4¼ Inches, cost of sand, etc., 100 square feet (cts.).	\$.66	\$.99	\$1.32	\$1.65	\$1.97
4¼ Inches, cost square foot (mills).	6 3-5	9 9-10	1 8-25	1 13-20	1 97-100

Continued on page 176.

4 1/4	Inches, cost of sand, etc., 100 square feet (cts.).	\$2.29	\$2.61	\$2.93	\$3.26
4 1/4	Inches, cost square foot (mills).....	2 29-100	2 61-100	2 93-100	3 13-50
4 1/2	Inches, cost of sand, etc., 100 square feet (cts.).	\$.70	\$1.04	\$1.38	\$1.73
4 1/2	Inches, cost square foot (mills).....	.7	1 1-25	1 19-50	1 73-100
4 1/2	Inches, cost of sand, etc., 100 square feet (cts.).	\$2.43	\$2.78	\$3.13	\$3.48
4 1/2	Inches, cost square foot (mills).....	2 43-100	2 39-50	3 13-100	3 12-25
4 3/4	Inches, cost of sand, etc., 100 square feet (cts.).	\$.74	\$1.11	\$1.48	\$1.85
4 3/4	Inches, cost square foot (mills).....	7 4-10	1 11-100	1 12-25	1 17-20
4 3/4	Inches, cost of sand, etc., 100 square feet (cts.).	\$2.59	\$2.96	\$3.33	\$3.70
4 3/4	Inches, cost square foot (mills).....	2 59-100	2 24-25	3 33-100	3 7-10
5	Inches, cost of sand, etc., 100 square feet (cts.).	\$.78	\$1.17	\$1.56	\$1.95
5	Inches, cost square foot (mills).....	7 8-10	1 17-100	1 14-25	1 19-20
5	Inches, cost of sand, etc., 100 square feet (cts.).	\$2.72	\$3.11	\$3.50	\$3.89
5	Inches cost square foot (mills).....	2 18-25	3 11-100	.3 1/2	3 89-100
5 1/4	Inches, cost of sand, etc., 100 square feet (cts.).	\$.82	\$1.22	\$1.63	\$2.03
5 1/4	Inches, cost square foot (mills).....	8 1-5	1 11-50	1 63-100	2 3-100
5 1/4	Inches, cost of sand, etc., 100 square feet (cts.).	\$2.85	\$3.26	\$3.67	\$4.08
5 1/4	Inches, cost square foot (mills).....	2 17-20	3 13-50	3 67-100	4 2-25

Continued on page 177.

3 1/4	Inches, cost of sand, etc., 100 square feet (mills).....	7 . 00	21 . 25	21 . 10	22 . 13	24 . 50
5 1/4	Inches, cost square foot (mills).....	8 7-10		1 7-25	2 13-100	2 14-25
5 1/2	Inches, cost of sand, etc., 100 square feet (cts.) .	\$ 3.98	\$ 3.41	\$ 3.83	\$ 4.26	
5 1/4	Inches, cost square foot (mills).....	3 49-50	3 41-100	3 83-100	4 13-50	
5 3/4	Inches, cost of sand, etc., 100 square feet (cts.) .	\$.89	\$ 1.33	\$ 1.78	\$ 2.22	\$ 2.66
5 3/4	Inches, cost square foot (mills).....	8 9-10	1 33-100	1 39-50	2 11-50	2 33-50
5 3/4	Inches, cost of sand, etc., 100 square feet (cts.) .	\$ 3.11	\$ 3.55	\$ 4.00	\$ 4.44	
5 3/4	Inches, cost square foot (mills).....	3 11-100	3 11-20	.4	4 11-25	
6	Inches, cost of sand, etc., 100 square feet (cts.) .	\$.93	\$ 1.39	\$ 1.85	\$ 2.32	\$ 2.78
6	Inches, cost square foot (mills).....	9 3-10	1 39-100	1 17-20	2 8-25	2 39-50
6	Inches, cost of sand, etc., 100 square feet (cts.) .	\$ 3.24	\$ 3.70	\$ 4.17	\$ 4.63	
6	Inches, cost square foot (mills).....	3 6-25	3 7-10	4 17-100	4 63-100	

NOTE.—The foregoing prices on sand, gravel, cinders, etc., for filling or bed, we have given prices per 100 square feet; also per square foot.

For concrete, see the cost as per tables on concrete material, then refer for cost of concrete for thickness at fixed prices given in tables. Each item of cost is given separately so as to give approximately the cost for each material as it costs you at the various thickness, which will require the various items to be added, for the total cost per 100 square feet.

Continued on page 178.

EXAMPLE

ITEM No. 1—Excavation 6 inches deep, 100 square feet, see table, shows 50 cubic feet at \$1.08 per cubic yard equals 4 cents times 50 equal cubic feet equals \$2.00.

ITEM No. 2—Cinder or sand, fill 6 inches deep, 100 square feet, see table; say it cost 75 cents per cubic yard shows at 6 inches \$1.39.

ITEM No. 3—Find cost of concrete as per mixture on concrete work, say it is to be 4 inches thick and cost only for material \$6.00. See table on concrete 4 inches thick at \$6.00 per cubic yard for material shows 100 square feet \$7.34.

ITEM No. 4—Cement top coat, 1-1 mixture, 100 square feet cement per barrel \$1.80 say $\frac{3}{4}$ inch thick, see table shows 100 square feet \$2.00.

ITEM No. 5—Sand top coat, 1-1 mixture, 100 square feet, sand per cubic yard \$1.50, see table; 90 square feet 21 3-7 say 25 cents for 100 square feet equals 25c.

Total cost of all material and excavation, \$12.98 or 13 cents per square foot. Add labor mixing concrete and top coat in place, see table on labor cost.

CEMENT WORK

LABOR COST COMBINED LAYING CEMENT WALKS, FLOORS AND DRIVEWAYS (10 HOURS PER DAY)

Thickness of Work 4 Inches, Including Top Coat		Basis—One Finisher and Three Helpers—Material to be Close to Work	
Wages combined.....	\$ 7.00	\$ 7.25	\$ 7.50
Cost, square foot (cts.).....	1 2-5	.01 $\frac{1}{2}$	1 11-20
Cost, 100 square feet.....	\$ 1.40	\$ 1.45	\$ 1.50
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			\$ 21.45

Wages combined.....	\$10.50	\$10.75	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00
Cost, square foot (cts.).....	2 1-10	2 3-20	2 1-5	.02½	2 3-10	2 7-20	2 2-5
Cost, 100 square feet.....	\$ 2.10	\$ 2.15	\$ 2.20	\$ 2.25	\$ 2.30	\$ 2.35	\$ 2.40
Wages combined.....	\$12.50	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	
Cost, square foot (cts.).....	.02½	2 3-5	2 7-10	2 4-5	2 9-10	.03	
Cost, 100 square feet.....	\$ 2.50	\$ 2.60	\$ 2.70	\$ 2.80	\$ 2.90	\$ 3.00	

LABOR COST COMBINED LAYING CEMENT WALKS, FLOORS, ETC. (9 HOURS PER DAY)

Thickness of Walk 4 Inches, Including Top Coat

Basis—One Finisher and Three Helpers—Material to be Close to Work

Wages combined.....	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25	\$ 8.50
Cost, square foot (cts.).....	1 5-9	1 11-18	.1½	1 13-18	1 7-9	1 5-6	1 8-9
Cost, 100 square feet.....	\$1.55 5-9	\$1.61 1-9	\$.166⅔	\$1.72 2-9	\$1.77 7-9	\$1.83⅓	\$1.88 8-9
Wages combined.....	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00	\$10.25
Cost, square foot (cts.).....	1 17-18	.02	2 1-18	2 1-9	.02½	2 2-9	2 5-18
Cost, 100 square feet.....	\$1.94 4-9	\$2.00	\$2.05 5-9	\$2.11 1-9	\$2.16⅔	\$2.22 2-9	\$2.27 7-9

Continued on page 180.

Wages combined.....	\$10.50	\$10.75	\$11.00	\$11.25•	\$11.50	\$11.75	\$12.00
Cost, square foot (cts.).....	.02½	2 7-18	2 4-9	.02½	2 5-9	2 11-18	.02¾
Cost, 100 square feet.....	\$2.33¾	\$2.38 8-9	\$2.44 4-9	\$2.50	\$2.55 5-9	\$2.61 1-9	\$2.66¾
Wages combined.....	\$12.50	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	
Cost, square foot (cts.).....	2 7-9	2 8-9	.03	3 1-9	3 2-9	.03½	
Cost, 100 square feet.....	\$2.77 7-9	\$2.88 8-9	\$3.00	\$3.11 1-9	\$3.22 2-9	\$3.33½	

LABOR COST COMBINED LAYING CEMENT WALKS, FLOORS, ETC. (8 HOURS PER DAY)

Thickness of Walks 4 Inches, Including Top Coat

Basis—One Finisher and Three Helpers—Material to be Close to Work

Wages combined.....	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25	\$ 8.50
Cost, square foot (cts.).....	.01¾	.01¾	.01¾	.01¾	.02	.02½	.02¾
Cost, 100 square feet.....	\$ 1.75	\$ 1.81¼	\$ 1.87½	\$ 1.93¾	\$ 2.00	\$ 2.06¼	\$ 2.12½
Wages combined.....	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00	\$10.25
Cost, square foot (cts.).....	.02¾	.02¼	.02¾	.02¾	.02¾	.02½	.02¾
Cost, 100 square feet.....	\$ 2.18¾	\$ 2.25	\$ 2.31¼	\$ 2.37½	\$ 2.43¾	\$ 2.50	\$ 2.56¼
Wages combined.....	\$10.50	\$10.75	\$11.00	\$11.25	\$11.50	\$11.75	\$12.00
Cost, square foot (cts.).....	.02¾	.02¾	.02¾	.02¾	.02¾	.02¾	.03
Cost, 100 square feet.....	\$ 2.62½	\$ 2.68¾	\$ 2.75	\$ 2.81¼	\$ 2.87½	\$ 2.93¾	\$ 3.00

Continued on page 181.

Wages combined.....	\$12.50	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00
Cost, square foot (cts.).....	.03½	.03¼	.03½	.03½	.03½	.03¾
Cost, 100 square feet.....	\$ 3.12½	\$ 3.25	\$ 3.37½	\$ 3.50	\$ 3.62½	\$ 3.75

NOTE.—The foregoing prices on labor only, includes the making of concrete and cement coat and placing same. It does not include any excavating or filling under concrete base.

EXAMPLE: We have a walk 100 feet long and 6 feet in width and to be 4 inches thick or about. For labor, we are required to pay one finisher \$5.00 per day of 10 hours and for helpers, three men at \$2.00 per day of 10 hours equals \$6.00 plus \$5.00 combines \$11.00. We then find on tables of labor cost, \$11.00 for 10 hours which shows 2 1-5 cents per square foot and we have to lay 100 times 6 equals 600 feet square at 2 1-5 cents equals \$13.20 for labor. Adding this to cost of material, etc., will give net cost without profits to contractors.

SCHEDULES ON CEMENT WORK

Excavation, see table on loading or shoveling earth.

Excavation, see tables on hauling earth at various size loads and distance of haul.

Filling under concrete base, with sand, gravel, etc., for loading and hauling, see tables on hauling.

Filling under concrete base, with sand, gravel or cinders, when delivered at fixed prices, see tables.

Concrete (material cost), for cement, see tables as per mixture, sand, see tables. Crushed rock, see tables.

Crushed rock to be hauled, see tables. If cement has to be hauled by you, see tables.

Concrete, cost per cubic yard. Then to find cost per square foot or 100 square feet at various thicknesses, see tables.

Continued on page 182.

Cement top coat material cement, see table. For sand top coat, see table.
Labor mixing concrete and top coat and placing same, see table.
Cost of lumber for forms, etc., water and other general expenses, then profits, see memoranda on cement and concrete work, see tables.

STONE WORK STONE WALLS, FOOTINGS, ETC.

RUBBLE STONE WORK is masonry made of rock that has not been dressed, or if dressed at all, have been only roughly shaped with a hammer or scabbled. In other words, the stone is laid in the rough as are taken from the quarries.

RANGE RUBBLE has the rock in each course roughly dressed to nearly a uniform height.

ASHLAR is stone masonry dressed for facing, squared and jointed.

QUARRY FACED is a rough face of stone, only the larger projections having been knocked off with a hammer.

DIMENSION STONE. Stone dressed to exactly specified sizes.

NIGGERHEADS OR BOULDERS, rounded field stones.

RULES FOR ESTIMATING STONE WORK

RUBBLE STONE WALLS are measured or estimated by the perch or cord. Take the length on the outside of the wall, including the corners, multiplied by height of wall, and this product multiplied by the width or thickness of wall. This will give the amount of cubic feet contained in the wall. This divided by 100 cubic feet will be the amount in cords or divide the number of cubic feet in wall by 25 cubic feet will be

Continued on page 183

the amount in perches. The standard perch is $24\frac{3}{4}$ cubic feet the perch at 25 cubic feet for the convenience of measurement.

A wall 16 feet, 6 inches long, 12 inches high and 18 inches, thick equals $24\frac{3}{4}$ feet cubic measure or a Stone work is sometimes estimated by the cubic yard, generally railroad work, bridges, etc.

In buying rough quarried stones by the cord (which is the usual way in most of States), the purchaser is supposed to receive 128 cubic feet in the rough, but the mason's measurement, including mortar joints, is 100 cubic feet in the wall for 1 cord and when we buy, we expect to pay for the 100 cubic feet per cord and receive pay on the same basis.

PROJECTIONS

Measure from the face of wall, including chimney breast, flues, pilasters and the like. 12 Inches and under should be measured by taking the face and adding the two returns to same. This multiplied by the thickness and height will give the contents of said projections.

PROJECTIONS

Exceeding 12 inches, measure the length and add one return to same, and then proceed as last above provided.

PILASTERS OR BUTRESSES

Beveling or battering from bottom to top, should be calculated the same as projections, except that the bottom of same should be the measurement.

IN CASE OF INSOLATED WALLS

Measure length and add 2 jambs thickness, multiplied by width (thickness) and height. All walls 18 inches thick should be measured as 18-inch walls, on account of extra labor to build.

STONE WORK

FOR ARCHES in walls figure the superficial face of arch, multiplied by the thickness of same, should be added to the full measurement.

ALL CUT STONE WORK backed with rubble masonry, should be measured as rubble masonry in full. No openings should be deducted, but if the same exceeds 6 feet in length, the same should be deducted, less the amount of jambs on both sides of openings, which allows for extra labor.

BUILDER'S DEFINITION RUBBLE STONE

Is either uncoursed or coursed. In uncoursed rubble, stones of any sizes and shapes are used without any reference to their height. The workman merely uses a tool called the scrabbling hammer to chip off any portion which may be unsightly or project from the general surface of the wall.

BUILDER'S DEFINITION COURSED RUBBLE

The workman roughly dresses the stones before he begins to lay them. He is careful to get good beds to them—that is to get the under and upper surface of stones at right angles to the beds. The walls are built in courses, although the different courses need not be equally high, nor need the separate stones of which a course may be composed necessarily be equal, but some may be laid on others to make up the height.

BUILDER'S DEFINITION ASHLAR WORK

Ashlar stone or Ashlars as they are usually called, are neatly squared and tooled on their surface and are of various sizes, according to convenience or character of the building. This kind of work is generally backed up with rubble stone or brick.

BUILDER'S DEFINITION BOND STONE

Are generally put in alternate courses, with backing to the jambs of windows, doors, etc. They are placed alternately in different courses so that they may not come immediately over each other so as to overlap and break joints.

BUILDER'S DEFINITION DIMENSION STONE

Are large flat stones, say 3 to 24 inches in thickness, and in large sizes. These stone are generally used for footings, piers, etc., and are generally measured by the cubic or superficial foot of a given thickness. These stones are drilled to dimensions as per order for special work.

PURCHASING STONE

When ordering special stone, give the length as the first, the second the height or width and the thickness required as the last dimension. We should also state to the dealer for what use the stones are intended, as in many cases this will aid the dealers in filling the orders. Do not wait till you want to use the stone before ordering, as delays and annoyance will most always follow. It may be the dealer would be glad to execute all orders with the least possible delay, but the dealer can not in reason be expected to wholly forsake the needs of one customer for the benefit of another.

We must also consider another very important part in buying stone. You may have the opportunity to purchase stone from various quarries, or their agents, perhaps they will all agree to deliver the stone at the same prices, or if not, there may be a very slight difference in cost. It is left to you to decide. You must then consider which company will furnish you the material promptly as needed, the quality of the stone is most important, which stone will give the best satisfaction to yourself and owners or their agent in charge, which stone has better beds, which stone requires less labor and mortar in laying same. The writer's experience

Continued on page 186.

has taught him that cheapest stone is not always the most profitable to the contractor. Stone quarried in good size pieces with good flat beds is what is needed very often we find rubble stone, delivered similar to what is called niggerheads. It may be in good size pieces, but is almost impossible for the mechanic to lay it, only by using double the amount of mortar it should require or the workman is required to work many minutes in getting the stone in proper shape to lay; therefore, in selecting stone from various quarries, consider fully which stone is the best for laying which would require the least labor in laying and the less mortar. It may be the stone has to be laid in pure cement and sand. If so, the above mentioned facts would be more expensive, because of the cost of cement, especially Portland cement. If you use the natural cement, namely: Utica, Rosendale, Louisville or other brands of hydraulic cements, you will find the cement the expensive part in laying up the stone work, as the masons generally use cement to make up the unevenness of the stone beds. They are required to use small pieces of broken stone to block, or what we term shin up; but this does not give the best results, and the masons in most all cases will be liberal with mortar, because of handiness. Another important fact is in filling the inner parts of walls. The stone is selected by the masons to get a neat face the inner parts of walls are in the rough requiring all voids or open parts to be filled for solid work, also to receive the next course of stone, small pieces of stone are filled in and imbedded in mortar but we find as usual, the mason uses mostly mortar for this purpose. If the price of Labor, cement, lime, and sand are expensive, and the stone can be purchased at a reasonable low price, it may be profitable to pay the difference for what we term select rubble, and the difference in cost can easily be made up on the labor and mortar. To lay one cord or one hundred cubic feet of stone, masons measure, or what is termed wall measure will require about three bushels of lime and three-fourths to one cubic yard of sand; for cement and sand it requires one and one-quarter to one and one-half Barrels of cement to three-fourths to one cubic yard of sand, this depends on, as above stated the quality of stone, and specified proportions of mixture of mortars. The above named materials and mortars are for rubble stone work only; cut stone requires much less, which will be given on following pages.

STONE WORK

Table showing the number of perches of stone and the number of feet and inches over in stone walls of various thicknesses (24 $\frac{3}{4}$ feet figured to 1 Perch):

THICKNESS OF STONE WALLS

Number of Square Feet of Face FEET	INCHES	12 In.		14 In.		16 In.		18 In.		20 In.		22 In.		24 In.	
		P.	Ft. In.	P.	Ft. In.	P.	Ft. In.	P.	Ft. In.	P.	Ft. In.	P.	Ft. In.	P.	Ft. In.
0	6	0	0 6	0	0 7	0	0 8	0	0 9	0	0 10	0	0 11	0	1 0
1	0	0	1 0	0	1 2	0	1 4	0	1 6	0	1 8	0	1 10	0	2 0
1	6	0	1 6	0	1 9	0	2 0	0	2 3	0	2 6	0	2 9	0	3 0
2	6	0	2 0	0	2 4	0	2 8	0	2 0	0	3 4	0	3 8	0	4 0
2	6	0	2 6	0	2 11	0	3 4	0	3 9	0	4 2	0	4 7	0	5 0
3	0	0	3 0	0	3 6	0	4 0	0	4 6	0	5 0	0	5 6	0	6 0
3	6	0	3 6	0	4 1	0	4 8	0	5 3	0	5 10	0	6 5	0	7 0
4	0	0	4 0	0	4 8	0	5 4	0	6 0	0	6 8	0	7 4	0	8 0
4	6	0	4 6	0	5 3	0	6 0	0	6 9	0	7 6	0	8 3	0	9 0
5	0	0	5 0	0	5 10	0	6 8	0	7 6	0	8 4	0	9 2	0	10 0
6	0	0	6 0	0	7 0	0	8 0	0	9 0	0	10 0	0	11 0	0	12 0
6	6	0	6 6	0	7 7	0	8 8	0	9 9	0	10 10	0	11 11	0	13 0
7	0	0	7 0	0	8 2	0	9 4	0	10 6	0	11 8	0	12 10	0	14 0
7	6	0	7 6	0	8 9	0	10 0	0	11 3	0	12 6	0	13 9	0	15 0

Continued on page 188.

THICKNESS OF STONE WALLS—Continued.

8	0	0	8	0	0	9	4	0	10	8	0	12	0	0	13	4	0	14	8	0	16	0
8	6	0	8	6	0	9	11	0	11	4	0	12	9	0	14	2	0	15	7	0	17	0
9	0	0	9	0	0	10	6	0	12	0	0	13	6	0	15	0	0	16	0	0	18	0
9	6	0	9	6	0	11	1	0	12	8	0	14	3	0	15	10	0	17	5	0	19	0
10	0	0	10	0	0	11	8	0	13	4	0	15	0	0	16	8	0	18	4	0	20	0
20	0	0	20	0	0	23	4	1	1	11	1	5	3	1	8	7	1	11	11	1	15	3
30	0	1	5	3	1	10	3	1	15	3	1	20	3	2	0	6	2	5	6	2	10	6
40	0	1	15	3	1	21	11	2	3	10	2	10	6	2	17	2	2	23	10	3	5	9
50	0	2	0	6	2	8	10	2	17	2	3	0	9	3	9	1	3	1	5	4	1	0
60	0	2	10	6	2	20	6	3	5	9	3	15	9	4	1	0	4	11	0	4	21	0
70	0	2	20	6	3	7	5	3	19	1	4	6	0	4	17	8	5	4	7	5	16	3
80	0	3	5	9	3	19	1	4	7	8	4	21	0	5	9	7	5	22	11	6	11	0
90	0	3	15	9	4	6	0	4	21	0	5	11	3	6	1	6	6	16	6	7	6	9
100	0	4	1	0	4	17	8	5	9	7	6	1	6	6	18	2	7	10	1	8	2	0
200	0	8	2	0	9	10	7	10	19	2	12	3	0	13	11	7	14	20	2	16	4	0
300	0	12	3	0	14	3	6	16	4	0	18	4	6	20	5	0	22	5	6	24	6	0
400	0	16	4	0	18	21	2	21	13	7	24	6	0	26	23	2	29	15	7	32	8	0
500	0	20	5	0	23	14	1	26	23	2	30	7	6	33	16	7	37	0	11	14	10	0
600	0	24	6	0	28	7	0	32	8	0	36	9	0	40	10	0	44	11	0	48	12	0
700	0	28	7	0	32	24	8	37	17	7	42	10	6	47	3	5	51	21	1	56	14	0
800	0	32	8	0	37	17	7	43	2	5	48	12	0	53	21	7	59	6	5	64	16	0
900	0	36	9	0	42	10	6	48	12	0	54	13	6	60	15	0	66	16	6	72	18	0
1000	0	40	10	0	47	3	5	53	21	7	60	15	0	67	8	5	74	1	10	80	20	0

STONE WORK

Table showing the number of perches of stone and the number of feet and inches over in stone walls of various thicknesses ($24\frac{3}{4}$ feet figured to 1 perch):

THICKNESS OF STONE WALLS

Number of Square Feet of Face	26 In.			28 In.			30 In.			32 In.			34 In.			36 In.		
	P.	Ft.	In.	P.	Ft.	In.	P.	Ft.	In.	P.	Ft.	In.	P.	Ft.	In.	P.	Ft.	In.
0	6	0	1 1	0	1 2	0	1 3	0	1 4	0	1 5	0	1 6	0	1 7	0	1 8	0
1	0	0	2 2	0	2 4	0	2 6	0	2 8	0	3 0	0	3 2	0	3 4	0	3 6	0
1	6	0	3 3	0	3 6	0	3 9	0	4 0	0	4 3	0	4 6	0	4 9	0	5 0	0
2	0	0	4 4	0	4 8	0	5 0	0	5 4	0	5 8	0	6 0	0	6 3	0	6 6	0
2	6	0	5 5	0	5 10	0	6 3	0	6 8	0	7 1	0	7 6	0	8 0	0	8 3	0
3	0	0	6 6	0	7 0	0	7 6	0	8 0	0	8 6	0	9 0	0	9 4	0	9 8	0
3	6	0	7 7	0	8 2	0	8 9	0	9 4	0	10 0	0	10 6	0	11 0	0	11 4	0
4	0	0	8 8	0	9 4	0	10 0	0	10 8	0	11 4	0	12 0	0	12 6	0	13 0	0
4	6	0	9 9	0	10 6	0	11 3	0	12 0	0	12 9	0	13 6	0	14 2	0	15 0	0
5	0	0	10 10	0	11 8	0	12 6	0	13 4	0	14 2	0	15 0	0	15 7	0	16 6	0
5	6	0	11 11	0	12 10	0	13 9	0	14 8	0	15 7	0	16 6	0	17 5	0	18 0	0
6	0	0	13 0	0	14 0	0	15 0	0	16 0	0	17 0	0	18 0	0	19 0	0	20 0	0
6	6	0	14 1	0	15 2	0	16 3	0	17 4	0	18 5	0	19 6	0	20 7	0	21 0	0
7	0	0	15 2	0	16 4	0	17 6	0	18 8	0	19 10	0	20 12	0	21 4	0	22 0	0
7	6	0	16 3	0	17 6	0	18 9	0	20 0	0	21 3	0	22 6	0	23 0	0	24 0	0

Continued on page 190.

THICKNESS OF STONE WALLS—Continued.

2	0	0	17	4	0	18	8	0	20	0	0	21	4	0	22	8	0	24	0
3	0	18	5	0	19	10	0	21	3	0	22	8	0	24	1	0	1	9	0
4	0	19	6	0	21	0	0	22	6	0	24	0	0	24	1	0	9	1	2
5	0	20	7	0	22	2	0	23	9	1	0	7	1	2	2	1	3	9	1
15	0	21	8	0	23	4	1	0	3	1	1	11	1	3	7	1	5	3	1
20	0	18	7	1	21	11	2	0	6	2	3	10	2	7	2	2	10	6	2
30	0	2	15	6	2	20	6	3	0	9	3	5	9	3	10	9	3	15	0
40	0	3	12	5	3	19	1	4	1	0	4	7	8	4	14	4	4	21	0
50	0	4	9	4	4	17	8	5	1	3	5	9	7	5	17	11	6	1	6
60	0	5	6	3	5	16	3	6	1	6	6	11	6	6	21	6	7	6	9
70	0	6	3	2	6	14	10	7	1	9	7	13	5	8	0	4	8	12	0
80	0	7	0	1	7	13	5	5	2	0	8	15	4	9	3	11	9	17	3
90	0	7	21	9	8	12	0	9	2	3	9	17	3	10	7	6	10	22	6
100	0	8	18	8	9	10	7	10	2	6	10	19	2	11	11	1	12	3	0
200	0	17	12	7	18	21	2	20	5	0	21	13	7	22	22	2	24	6	0
300	0	26	6	6	28	7	0	30	7	6	32	8	0	34	8	6	36	9	0
400	0	35	0	5	37	17	7	40	10	0	43	2	5	45	19	7	48	12	0
500	0	43	19	1	47	3	5	50	12	6	53	21	7	57	5	11	60	15	0
600	0	52	13	0	56	14	0	60	15	0	64	16	0	68	17	0	72	18	0
700	0	61	6	11	65	24	7	70	17	6	75	10	5	80	3	4	84	21	0
800	0	70	0	10	75	10	5	80	20	0	86	4	10	91	14	5	96	24	0
900	0	78	19	6	84	21	0	90	22	6	96	24	0	103	0	9	109	2	3
1000	0	87	13	5	94	6	10	101	0	3	107	18	5	114	11	10	121	5	3

THICKNESS OF STONE WALLS—Continued.

EXAMPLE: Say we have a stone wall to build 50 feet long, 9 feet high and 22 inches thick. 50 feet 0 inches times 9 feet 0 inches equals 450 square feet, then by table 400 times 22 inches equals..... 27 perches, 15 feet, 7 inches. Then by table 50 times 22 inches equals..... 3 perches, 17 feet, 5 inches.

22 Inches times 450 feet face times 22 inches..... 31 perches, 8 feet, 0 inches.

STONE WORK
TABLE OF WEIGHTS OF VARIOUS BUILDING ROCK (SAND STONE)

COLOR	LOCALITY	WEIGHT
Brown.....	Little Falls, New York.....	135 pounds per cubic foot
Brown.....	Middletown, Connecticut.....	140 pounds per cubic foot
Red.....	Harverstraw, New York.....	135 pounds per cubic foot
Pink.....	Medina.....	156 pounds per cubic foot
Drab.....	Berea, Ohio.....	132 pounds per cubic foot
Grey.....	Anherst, Ohio.....	137 pounds per cubic foot
Drab.....	Vermillion, Ohio.....	136 pounds per cubic foot
Brown.....	Seneca, Ohio.....	150 pounds per cubic foot
Red.....	Cleveland, Ohio.....	140 pounds per cubic foot
Red.....	Marblehead, Ohio.....	143 pounds per cubic foot
Drab.....	Buena Vista, Ohio.....	138 pounds per cubic foot

ntinu on page 192.

Pointe à la Pêche	Point du Lac, Wisconsin	139 pounds per cubic foot
Pointe à la Pêche	Kayota, Minnesota	164 pounds per cubic foot
Buff.	Fontenac, Minnesota	146 pounds per cubic foot
Buff.	Warrensburg, Missouri	134 pounds per cubic foot
Buff.	Lee County, Iowa	155 pounds per cubic foot

TABLE OF WEIGHTS OF VARIOUS LIME STONES

Bedford, Indiana	148 pounds per cubic foot
Bloomington, Indiana	139 pounds per cubic foot
Ellettsville, Indiana	152 pounds per cubic foot
Corydon, Indiana	150 pounds per cubic foot
Putnamville, Indiana	165 pounds per cubic foot
Deputy North Vernon, Indiana	164 pounds per cubic foot
St. Paul, Indiana	168 pounds per cubic foot
Joliet, Illinois	159 pounds per cubic foot
Marblehill, Ohio	150 pounds per cubic foot
North River, New York	170 pounds per cubic foot
Glen Falls, New York	169 pounds per cubic foot
Lake Champlain, New York	172 pounds per cubic foot
Kingston, New York	168 pounds per cubic foot
Garrison Station, New York	164 pounds per cubic foot
Lemont, Illinois	165 pounds per cubic foot
Athens, Illinois	158 pounds per cubic foot

Continued on page 193.

Hancock County, Illinois.....	155 pounds per cubic foot
Beardstown, Kentucky.....	167 pounds per cubic foot
Lime Island, Michigan.....	157 pounds per cubic foot
Marquette, Michigan.....	147 pounds per cubic foot
Canton, Missouri.....	147 pounds per cubic foot
Billingsville, Missouri.....	146 pounds per cubic foot
Big Sturgeon Bay, Wisconsin.....	173 pounds per cubic foot
Quincy, Illinois.....	160 pounds per cubic foot
Other Lime Stone not mentioned, averages per cubic foot, 165 to 168 pounds.	

STONE WORK

TABLE OF WEIGHTS OF VARIOUS GRANITES PER CUBIC FOOT

Quincy, Massachusetts.....	166 pounds per cubic foot
Cape Ann, Massachusetts.....	167 pounds per cubic foot
Fall River, Massachusetts.....	165 pounds per cubic foot
Rockport, Massachusetts.....	163 pounds per cubic foot
Fox and Dix Island, Maine.....	166 pounds per cubic foot
Hewitts Island, Maine.....	165 pounds per cubic foot
Hurricane Island, Maine.....	167 pounds per cubic foot
Keene, New Hampshire.....	167 pounds per cubic foot
Westerly, Rhode Island.....	166 pounds per cubic foot

Continued on page 194.

Millstone Point, Connecticut.....	168 pounds per cubic foot
Niantic River, Connecticut.....	167 pounds per cubic foot
Mystic River, Connecticut.....	164 pounds per cubic foot
Staten Island, New York.....	178 pounds per cubic foot
Morrisania, New York.....	170 pounds per cubic foot
Port Deposit, Maryland.....	170 pounds per cubic foot
Huron Island, Michigan.....	166 pounds per cubic foot
Richmond, Virginia.....	164 pounds per cubic foot
Duluth, Minnesota.....	175 pounds per cubic foot
St. Cloud, Minnesota.....	168 pounds per cubic foot
Other kinds not mentioned, average.....	167 to 170 pounds per cubic foot
Marble weighs, on average.....	165 to 170 pounds per cubic foot

194

STONE IN THE ROUGH FOR CUTTING

In estimating the weight of Rough Dimension Stone which is to be dressed and tooled, it is customary by stone dealers in cities and towns, to figure all stone in the rough at 20 to 30 pounds extra per cubic foot, which depends on the material and class of work. This estimate makes allowance for waste in dressing same and sap in that direct from the quarries.

STONE SAWED AT QUARRIES FOR CUTTING

In most large quarries or cut stone works, saws are used in getting out the stone in various dimensions, thus saving a great cost of high priced labor; also waste of stone. All cut stone, namely: Plain window and door sills, bases, water tables, steps, platforms, flaggings, etc., can easily be sawed to the proper dimensions and requires very little cutting with the exception of jointing. Most all cut stone of late years is being cut with machinery. When estimating on buildings requiring a large amount of cut stone, we would advise

QUARRYING STONE IN FREEZING WEATHER

In many parts of the United States, quarries are required to close down their works during freezing weather, owing to the stone freezing and popping or breaking at seams. Some stone can stand great deal of frost and does not effect it. After stone has been quarried and weathered a short time, frost will not lime stone. In the same case of lime stone being heated by fire and water thrown on it while hot will cause the stone to break.

Table No. 1.

STONE WORK—RUBBLE STONE LAYING

Cost of labor combined for 10 hours—Mason's wages \$3.50 to \$6.00 per day, allowing one helper to each mason. Laborer's wages \$1.50 to \$3.50 per day:

		THICKNESS OF WALLS, 16 INCHES OR LESS			
Wages combined.....	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Cost, cubic foot (cts.).....	.05	.05 1/4	.05 1/2	.05 3/4	.06
Cost, perch 25 feet.....	\$1.25	\$1.31 1/4	\$1.37 1/2	\$1.43 3/4	\$1.50
Cost, cord 100 feet.....	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50
Cost, cubic foot (cts.).....	.06 1/2	.06 3/4	.07	.07 1/4	.07 1/2
Cost, perch 25 feet.....	\$1.62 1/2	\$1.68 3/4	\$1.75	\$1.81 1/4	\$1.87 1/2
Cost, cord 100 feet.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50
Wages combined.....	\$8.00	\$8.50	\$9.00	\$9.50	
Cost, cubic foot (cts.).....	.08	.08 1/2	.09	.09 1/2	
Cost, perch 25 feet.....	\$2.00	\$2.12 1/2	\$2.25	\$2.37 1/2	
Cost, cord 100 feet.....	\$8.00	\$8.50	\$9.00	\$9.50	

TABLE No. 2.

THICKNESS OF WALLS 16 INCHES OR LESS

Mason's Wages \$3.50 to \$6.00. Labor \$1.50 to \$3.50 per 9 Hours

(9 Hours per day).

Wages combined.....	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost, cubic foot (cts.).....	5 5-9	5 5-6	6 1-9	6 7-18	.06 $\frac{3}{4}$	6 17-18
Cost, perch 25 feet.....	\$1.38 8-9	\$1.45 5-6	\$1.52 7-9	\$1.59 7-9	\$1.66 $\frac{3}{4}$	\$1.73 $\frac{3}{4}$
Cost, cord 100 feet.....	\$5.55 5-9	\$5.83 $\frac{1}{2}$	\$6.11 1-9	\$6.38 8-9	\$6.66 $\frac{3}{4}$	\$6.94 4-9
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75
Cost, cubic foot (cts.).....	7 2-9	.07 $\frac{1}{2}$	7 7-9	8 1-18	.08 $\frac{1}{4}$	8 11-18
Cost, perch 25 feet.....	\$1.80 5-9	\$1.87 $\frac{1}{2}$	\$1.94 4-9	\$2.01 7-18	\$2.08 $\frac{1}{4}$	\$2.15 5-18
Cost, cord 100 feet.....	\$7.22 2-9	\$7.50	\$7.77 7-9	\$8.05 5-9	\$8.33 $\frac{1}{2}$	\$8.61 1-9
Wages combined.....	\$8.00	\$8.50	\$9.00	\$9.50		
Cost, cubic foot (cts.).....	8 8-9	9 4-9	.10	10 5-9		
Cost, perch 25 feet.....	\$2.22 2-9	\$2.36 1-9	\$2.50	\$2.63 8-9		
Cost, cord 100 feet.....	\$8.88 8-9	\$9.44 4-9	\$10.00	\$10.55 5-9		

TABLE No. 3.

THICKNESS OF WALLS, 16 INCHES OR LESS

Mason's Wages \$3.50 to \$6.00. Labor \$1.50 to \$3.50 per 8 Hours

(8 Hours per day).

Wages combined.....	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost, cubic foot (cts.).....	.06 $\frac{1}{4}$	.06 $\frac{3}{4}$	.06 $\frac{1}{2}$	.07 $\frac{1}{4}$	.07 $\frac{1}{2}$	.07 $\frac{3}{4}$
Cost, perch 25 feet.....	\$1.56 $\frac{1}{4}$	\$1.64 $\frac{1}{2}$	\$1.71 $\frac{1}{2}$	\$1.79 $\frac{3}{4}$	\$1.87 $\frac{1}{2}$	\$1.95 $\frac{3}{4}$
Cost, cord 100 feet.....	\$6.25	\$6.56 $\frac{1}{2}$	\$6.87 $\frac{1}{2}$	\$7.18 $\frac{3}{4}$	\$7.50	\$7.81 $\frac{1}{2}$

Continued on page 197.

Cost, cubic foot (cts.).....	.08½	.08½	.08½	.09½	.09½
Cost, perch 25 feet.....	\$2.03½	\$2.10½	\$2.18½	\$2.26½	\$2.34½
Cost, cord 100 feet.....	\$8.12½	\$8.43½	\$8.75	\$9.06½	\$9.37½
Wages combined.....	\$8.00	\$8.50	\$9.00	\$9.50	
Cost, cubic foot (cts.).....	.10	.10½	.11½	.11½	
Cost, perch 25 feet.....	\$2.50	\$2.65½	\$2.81½	\$2.96½	
Cost, cord 100 feet.....	\$10.00	\$10.62½	\$11.25	\$11.87½	

TABLE No. 4.

THICKNESS OF WALLS, 16 AND 18 INCHES

		Mason's Wages \$3.50 to \$6.00. Labor \$1.50 to \$3.50 per 10 Hours				
(10 Hours per day).						
Wages combined.....	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost, cubic foot (cts.).....	4 6-11	4 17-22	.05	5 5-22	5 5-11	5 15-22
Cost, perch 25 feet.....	\$1.13 7-11	\$1.19 7-22	\$1.25	\$1.30 15-22	\$1.36 4-11	\$1.42 1-22
Cost, cord 100 feet.....	\$4.54 6-11	\$4.77 3-11	\$5.00	\$5.22 8-11	\$5.45 5-11	\$5.68 2-11
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75
Cost, cubic foot (cts.).....	5 10-11	6 3-22	6 4-11	6 13-22	6 9-11	7 1-22
Cost, perch 25 feet.....	\$1.47 8-11	\$1.53 9-22	\$1.59 1-11	\$1.64 17-22	\$1.70 5-11	\$1.76 3-22
Cost, cord 100 feet.....	\$5.90 10-11	\$6.13 7-11	\$6.36 4-11	\$6.59 1-11	\$6.81 9-11	\$7.04 6-11

Continued on page 198.

Wages combined.....	\$8.00	\$8.50	\$9.00	\$9.50
Cost, cubic foot (cts.).....	7 3-11	7 8-11	8 2-11	8 7-11
Cost, perch 25 feet.....	\$1.81 9-11	\$1.93 2-11	\$2.04 6-11	\$2.15 10-11
Cost, cord 100 feet.....	\$7.27 3-11	\$7.72 8-11	\$8.18 2-11	\$8.63 7-11

TABLE NO. 5.

THICKNESS OF WALLS, 16 AND 18 INCHES

Mason's Wages \$3.50 to \$6.00. Labor \$1.50 to \$3.50 per 9 Hours

(9 Hours per day).

Wages combined.....	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost, cubic foot (cts.).....	.05	.05 1/4	.05 1/2	.05 3/4	.06	.06 1/4
Cost, perch 25 feet.....	\$1.25	\$1.31 1/4	\$1.37 1/2	\$1.43 3/4	\$1.50	\$1.56 1/4
Cost, cord 100 feet.....	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75
Cost, cubic foot (cts.).....	.06 1/2	.06 3/4	.07	.07 1/4	.07 1/2	.07 3/4
Cost, perch 25 feet.....	\$1.62 1/2	\$1.68 3/4	\$1.75	\$1.81 1/4	\$1.87 1/2	\$1.93 3/4
Cost, cord 100 feet.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75

Wages combined.....	\$8.00	\$8.50	\$9.00	\$9.50
Cost, cubic foot (cts.).....	.08	.08 1/4	.09	.09 1/4
Cost, perch 25 feet.....	\$2.00	\$2.12 1/4	\$2.25	\$2.37 1/4
Cost, cord 100 feet.....	\$8.00	\$8.50	\$9.00	\$9.50

(8 Hours per day).									
Wage combined.....	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25			
Cost, cubic foot (cts.).....	5 15-22	5 43-44	6 11-44	6 47-88	6 9-11	7 9-88			
Cost, perch 25 feet.....	\$1.42 1-22	\$1.49 19-44	\$1.56 1/4	\$1.63 31-88	\$1.70 5-11	\$1.77 49-88			
Cost, cord 100 feet.....	\$5.68 2-11	\$5.97 8-11	\$6.25	\$6.53 9-22	\$6.81 9-11	\$7.10 5-22			
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75			
Cost, cubic foot (cts.).....	7 17-44	7 59-88	7 21-22	8 21-88	8 23-44	8 71-88			
Cost, perch 25 feet.....	1.84 29-44	1.91 67-88	1.98 19-22	2.05 85-88	2.13 3-44	2.20 15-88			
Cost, cord 100 feet.....	\$7.38 7-11	\$7.67 1-22	\$7.95 5-11	\$8.23 19-22	\$8.52 3-11	\$8.80 15-22			
Wages combined.....	\$8.00	\$8.50	\$9.00	\$9.50					
Cost, cubic foot (cts.).....	9 1-11	9 29-44	10 5-22	10 35-44					
Cost, perch 25 feet.....	\$2.27 3-11	2.41 21-44	2.55 15-22	2.69 39-44					
Cost, cord 100 feet.....	\$9.09 1-11	9.65 10-11	10.22 8-11	10.79 6-11					

TABLE No. 7.

THICKNESS OF WALLS, 22 AND 24 INCHES

Mason's Wages \$3.50 to \$6.00. Labor \$1.50 to \$3.50 per 10 Hours

(10 Hours per day).									
Wages combined.....	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25			
Cost, cubic foot (cts.).....	3 11-13	4 1-26	4 3-13	4 11-26	4 8-13	4 21-26			
Cost, perch 25 feet.....	.95 10-13	\$1.01 5-13	\$1.05 10-13	\$1.10 15-26	\$1.15 5-13	\$1.20 5-26			
Cost, cord 100 feet.....	\$3.84 8-13	\$4.03 11-13	\$4.23 1-13	\$4.42 4-13	\$4.61 7-13	\$4.80 10-13			

Continued on page 200.

Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75
Cost, cubic foot (cts.).....	.05	5 5-26	5 5-13	5 15-26	5 10-13	5 25-26
Cost, perch 25 feet.....	\$1.25	\$1.29 21-26	1.34 8-13	1.39 11-26	\$1.44 3-13	\$1.49 1-26
Cost, cord 100 feet.....	\$5.00	\$5.19 3-13	\$5.38 6-13	\$5.57 9-13	\$5.76 12-13	\$5.96 2-13
Wages combined.....	\$8.00	\$8.50	\$9.00	\$9.50		
Cost, cubic foot (cts.).....	6 2-13	6 7-13	6 12-13	7 4-13		
Cost, perch 25 feet.....	\$1.53 11-13	-1.63 6-13	\$1.73 1-13	\$1.82 9-13		
Cost, cord 100 feet.....	\$6.15 5-13	\$6.53 11-13	\$6.92 4-13	\$7.30 10-13		

THICKNESS OF WALLS, 22 AND 24 INCHES

TABLE No. 8. Mason's Wages \$3.50 to \$6.00. Labor \$1.50 to \$3.50 per 9 Hours

(9 Hours per day).

Wages combined.....	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost, cubic foot (cts.).....	4 14-59	4 53-118	4 39-59	4 103-118	5 5-59	5 35-118
Cost, perch 25 feet.....	\$1.05 55-59	\$1.11 27-118	\$1.16 31-59	\$1.21 97-118	\$1.27 7-59	\$1.32 49-118
Cost, cord 100 feet.....	\$4.23 43-59	\$4.44 54-59	\$4.66 6-59	\$4.87 17-59	\$5.08 28-59	\$5.21 11-59
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75
Cost, cubic foot (cts.).....	5 30-59	5 85-118	5 55-59	6 17-118	6 21-59	6 67-118
Cost, perch 25 feet.....	\$1.37 42-59	\$1.43 1-118	\$1.48 18-59	\$1.53 71-118	\$1.58 53-59	\$1.64 23-118
Cost, cord 100 feet.....	\$5.50 50-59	\$5.72 2-59	\$5.93 13-59	\$6.14 24-59	\$6.35 35-59	\$6.56 46-59
Wages combined.....	\$8.00	\$8.50	\$9.00	\$9.50		
Cost, cubic foot (cts.).....	6 46-59	7 12-59	7 37-59	8 3-59		
Cost, perch 25 feet.....	\$1.69 29-59	\$1.80 5-59	\$1.90 40-59	\$2.01 16-59		
Cost, cord 100 feet.....	\$6.77 57-59	\$7.20 20-59	\$7.62 42-59	\$8.05 5-59		

(8 Hours per day).

Wages combined.....	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost, cubic foot (cts.).....	4 21-26	5 5-104	5 15-52	5 55-104	5 10-13	6 1-104
Cost, perch 25 feet.....	\$1.20 5-26	\$1.26 21-104	\$1.32 11-52	\$1.38 23-104	\$1.44 3-13	\$1.50 25-104
Cost, cord 100 feet.....	\$4.80 10-13	\$5.04 21-26	\$5.28 11-13	\$5.52 23-26	\$5.76 12-13	\$6.00 25-26
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75
Cost, cubic foot (cts.).....	6 13-52	6 51-104	6 19-26	6 101-104	7 11-52	7 47-104
Cost, perch 25 feet.....	\$1.56 13-52	\$1.62 27-104	\$1.68 7-26	\$1.74 29-104	\$1.80 15-52	\$1.86 31-104
Cost, cord 100 feet.....	\$6.25	\$6.49 1-26	\$6.73 1-13	\$6.97 3-26	\$7.21 2-13	\$7.45 5-26
Wages combined.....	\$8.00	\$8.50	\$9.00	\$9.50		
Cost, cubic foot (cts.).....	7 9-13	8 9-52	8 17-26	9 7-52		
Cost, perch 25 feet.....	\$1.92 4-13	\$2.04 17-52	\$2.16 9-26	\$2.28 19-52		
Cost, cord 100 feet.....	\$7.69 3-13	\$8.17 4-13	\$8.65 5-13	\$9.13 6-13		

TABLE No. 10.

THICKNESS OF WALLS, 26 INCHES AND OVER

Mason's Wages \$3.50 to \$6.00. Labor \$1.50 to \$3.50 per 10 Hours

(10 Hours per day).

Wages combined.....	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost, cubic foot (cts.).....	.03 1/2	.03 1/2	.03 3/4	3 5-6	.04	.04 1/2
Cost, perch 25 feet.....	\$.83 1/2	\$.87 1/2	\$.91 3/4	\$.95 5-6	\$1.00	\$1.04 1/2
Cost, cord 100 feet.....	\$3.33 1/2	\$3.50	\$3.66 3/4	\$3.83 1/2	\$4.00	\$4.16 3/4

Continued on page 202.

Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75
Cost, cubic foot (cts.).....	.04½	.04½	.04½	.04 5-6	.05	.05½
Cost, perch 25 feet.....	\$1.08½	\$1.12½	\$1.16½	\$1.20 5-6	\$1.25	\$1.29½
Cost, cord 100 feet.....	\$4.33½	\$4.50	\$4.66½	\$4.83½	\$5.00	\$5.16½
Wages combined.....	\$8.00	\$8.50	\$9.00	\$9.50		
Cost, cubic foot (cts.).....	.05½	.05½	.06	.06½		
Cost, perch 25 feet.....	\$1.33½	\$1.41½	\$1.50	\$1.58½		
Cost, cord 100 feet.....	\$5.33½	\$5.66½	\$6.00	\$6.33½		

TABLE No. 11. THICKNESS OF WALLS, 26 INCHES AND OVER

(9 Hours per day). Mason's Wages \$3.50 to \$6.00. Labor \$1.50 to \$3.50 per 9 Hours							
Wages combined.....	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25	
Cost, cubic foot (cts.).....	3 19-27	3 8-9	4 2-27	4 7-27	4 12-27	4 17-27	
Cost, perch 25 feet.....	\$.92 16-27	\$.97 2-9	\$1.01 23-27	\$1.06 13-27	\$1.11 1-9	\$1.15 20-27	
Cost, cord 100 feet.....	\$3.70 10-27	\$3.88 8-9	\$4.07 11-27	\$4.25 25-27	\$4.44 12-27	\$4.62 26-27	
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	
Cost, cubic foot (cts.).....	4 22-27	.05	5 5-27	5 10-27	5 5-9	5 20-27	
Cost, perch 25 feet.....	\$1.20 10-27	\$1.25	\$1.29 17-27	\$1.34 7-27	\$1.38 8-9	\$1.43 14-27	
Cost, cord 100 feet.....	\$4.81 13-27	\$5.00	\$5.18 14-27	\$5.37 1-27	\$5.55 5-9	\$5.74 2-27	

Continued on page 203.

Cost, cubic foot (cta.).....	5 25-27	6 8-27	7 1-27
Cost, perch 25 feet.....	\$1.48 4-27	\$1.57 11-27	\$1.75 25-27
Cost, cord 100 feet.....	\$5.92 16-27	\$6.29 17-27	\$7.03 19-27
			.06%
			\$1.66%
			\$6.66%

TABLE No. 12.
THICKNESS OF WALLS, 26 INCHES AND OVER
Mason's Wages \$3.50 to \$6.00. Labor \$1.50 to \$3.50 per 8 Hours

(8 Hours per day).									
Wages combined.....	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25			
Cost, cubic foot (cts.).....	.04 1/2	.04 3/8	.04 7-12	4 19-24	.05	5 5-24			
Cost, perch 25 feet.....	\$1.04 1/2	\$1.09 3/8	\$1.14 7-12	\$1.19 19-24	\$1.25	\$1.30 5-24			
Cost, cord 100 feet.....	\$4.16 3/8	\$4.37 1/2	\$4.58 1/2	\$4.79 1/2	\$5.00	\$5.20 5-6			
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75			
Cost, cubic foot (cts.).....	5 5-12	.05 5/8	.05 5-6	6 1-24	.06 1/2	6 11-24			
Cost, perch 25 feet.....	\$1.35 5-12	\$1.40 5/8	\$1.45 5-6	\$1.51 1-24	\$1.56 1/2	\$1.61 11-24			
Cost, cord 100 feet.....	\$5.41 3/8	\$5.62 1/2	\$5.83 1/2	\$6.04 1/2	\$6.25	\$6.45 5-6			
Wages combined.....	\$8.00	\$8.50	\$9.00	\$9.50					
Cost, cubic foot (cts.).....	.06 3/8	7 1-12	.07 1/2	7 11-12					
Cost, perch 25 feet.....	\$1.66 3/8	\$1.79 1-12	\$1.87 1/2	\$1.97 11-12					
Cost, cord 100 feet.....	\$6.66 3/8	\$7.08 1/2	\$7.50	\$7.91 3/8					

NOTE.—If the stone is estimated by the cubic yard, which is mostly done on bridge work, etc., take the foregoing prices of labor per cubic foot, multiplied by 27 cubic feet in 1 yard. If you estimate by the perch, multiply the number of perch to be laid by the prices given per perch, as per combined wages you pay for

Concluded on page 204.

Concluded on page 204.

mason and one helper; the same applies to our list of prices of labor laying rubble stone. If the material should be a long distance from workman, so as to require one and one-fourth labor to each mason, figure price of labor per day and add one-fourth more to the wages, then refer to the foregoing prices. For example Say mason's wages are \$5.00 per day of 8 hours and labor is \$2.00 and one-fourth of \$2.00 equals 50 cents, which would amount to \$2.50 for helper and combining \$5.00 mason's wages equals \$7.50 per day. The walls are to be 22 or 24 inches thick—we find cost tables on 8 hours for 22 and 24 inch walls and find \$7.50 combined wages, which shows cost per cubic foot, 7 11-52 cents; for perch, \$1.80 15-52; for cord, \$7.21 2-13, which multiplied by the quantity, will give the total cost for laying the stone. These prices are on the basis of the rubble stone, being a good quality of ordinary size with average good beds, etc. (See Purchasing Stone)

TABLE No. 19.

SAND COST PER CUBIC YARD DELIVERED; ALSO COST OF SAND PER PERCH AND (ORD)
OF STONE

Cost of sand delivered.....	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50
Cost per perch 25 cubic feet (cts.).....	.25	.31¼	.37½	.43¾	.50	.56¼	.62½
Cost per cord 100 cubic feet (cts.).....	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50

TABLE No. 20.

LIME COST PER BUSHEL DELIVERED. ALSO (COST PER PERCH AND (ORD)

Cost per bushel delivered (cts.).....	.20	.21	.22	.23	.24	.25	.26
Cost per perch 25 cubic feet (cts.).....	.12½	.15¼	.16½	.17¼	.18	.18¾	.19½
Cost per cord 100 cubic feet (cts.).....	.60	.63	.66	.69	.72	.75	.78
Cost per bushel delivered.....	.27	.28	.29	.30			
Cost per perch 25 cubic feet (cts.).....	.20¼	.21	.21¾	.22½			
Cost per cord 100 cubic feet (cts.).....	.81	.84	.87	.90			

STONE WORK

COST OF RUBBLE ROCK DELIVERED BY THE PERCH OF 25 CUBIC FEET WHEN LAID IN WALL

A perch of masonry actually contains $24\frac{3}{4}$ cubic feet. In some localities, 22 cubic feet in wall is called a perch, therefore, in purchasing rock have an understanding with the dealers. The number of cubic feet will be delivered per perch or cord. Some quarries sell by weight, allowing so many pounds per perch or cord. Another system that is followed is the dealers deliver the stone and the rock is measured in the walls at an agreed number of cubic feet per perch or cord and is paid as per wall measure.

TABLE No. 21.

COST OF RUBBLE ROCK IN WALLS PER PERCH OR CORD, AS PER AGREEMENT

Cost of rock per perch.....	\$1.50	\$1.55	\$1.60	\$1.65	\$1.70	\$1.75	\$1.80	\$1.85
Cost of rock per cord.....	\$6.00	\$6.20	\$6.40	\$6.60	\$6.80	\$7.00	\$7.20	\$7.40
Cost of rock per perch.....	\$1.90	\$2.00	\$2.10	\$2.25	\$2.35	\$2.50	\$2.75	\$3.00
Cost of rock per cord.....	\$7.60	\$8.00	\$8.40	\$9.00	\$9.40	\$10.00	\$11.00	\$12.00

TABLE No. 22.

CEMENT COST PER BARREL; ALSO APPROXIMATELY THE COST OF CEMENT TO LAY ONE PERCH OR CORD

Cost per barrel delivered.....	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00
Cost of cement per perch (cts.)...	$.39\frac{1}{4}$	$.46\frac{7}{8}$	$.54\frac{11}{16}$	$.62\frac{1}{2}$	$.70\frac{5}{8}$	$.78\frac{1}{8}$	$.85\frac{5}{8}$	$.93\frac{3}{4}$
Cost of cement per cord.....	\$1.56 $\frac{1}{4}$	\$1.87 $\frac{1}{2}$	\$2.18 $\frac{3}{4}$	\$2.50	\$2.81 $\frac{1}{4}$	\$3.12 $\frac{1}{2}$	\$3.43 $\frac{3}{4}$	\$3.75

Continued on page 206.

EXAMPLE: We have a wall to build of rubble stone, thickness of wall to be 22 inches and contains 100 perch or 25 cords wall measure. Mason's wages are \$5.00 and helpers \$2.00; combined wages are \$7.00 per 8 hours. We turn to Table No. 9 on rubble stone laying at \$7.00 per day shows the cost to lay 1 perch \$1.68 7-26 times 100 perch equals \$168.26 12-13 or say.....\$168 26

Sand cost delivered say \$1.50 per cubic yard, see Table No. 19, shows cost per perch 37½ cents times 100 perch equals..... 37.50
 Lime cost delivered say 22 cents per bushel, see Table No. 20, shows cost per perch 16½ cents times 100 perch equals..... 16.50
 Rock cost per perch say \$2.00, see Table No. 21, shows cost per perch \$2.00 times 100 perch equals..... 200.00

Cost of 100 perch in wall.....\$422.26
 Cost of 1 perch in wall \$4.22 13-50 times 100 perch equals \$422.26.
 Cost of 1 cord in wall \$16.89 1-25 times 25 cords equals \$422.26.

Foremanship, timekeeper and water boy's wages to be added to the named cost; also profits, etc., see Table for superintendent, foreman, timekeeper, water boy, etc.

THE COST OF SUPERINTENDENT, FOREMAN, TIMEKEEPER, WATER CARRIER, ETC.

These items depend upon the number of cubic feet laid per crew and the combined wages paid to named help. If any of the above are employed, say the foreman at \$6.00 per day and water carrier at \$1.00 per day, the wages combined cost \$7.00 per day. This foreman has in his charge, six masons who lay only 6 cords or 24 perch; the expense would be \$1.16½ per cord or 29¼ cents per perch. Again this same foreman has in his charge twelve masons and each mason averages 1½ cord of stone or 15 cords per crew. The cost per cord to be added for foreman and water carrier would be 46½ cents per cord. It is a common occurrence to see money

wasted by running too small a gang of men under one foreman. If the work is small and the foreman works as the mechanics, then the expense is very small—possibly only the difference in scale of wages between the foreman and the masons. The contractor on stone work depends mostly on the labor for profits, although the material should allow a fair margin. If the purchaser is shrewd in buying, the contractor who depends on profits only from labor seldom becomes successful. Why? Because he is responsible for the material as well as the labor. He no doubt agrees to furnish all material and labor according to plans and the specifications. If this be the conditions, you are held responsible for all material. In case you are short in your estimate for material, you are required to furnish the required amount. If this be the case, no doubt you will be short or too cheap on your labor. Most likely you will make no profits on the work, but instead will be forced to pay out your own money in order to fulfill your contract. The writer believes the only way to overcome these difficulties and be fair to yourself and others concerned, is to figure a certain per cent on the total cost of the work. First. You are to take off all the correct measurements, this giving you the amount of material to purchase which also gives the quantities to be laid by mechanics. We then proceed to make an itemized bill on said piece of work as follows:

ITEM No. 1.—All material and labor required for stone work, as per plans and specifications furnished by John Hill, architect, for Mr. Brown's building to be erected at No. 21 Water street, Chicago, Ill.:

ITEM No. 2.—North wall.....	100 feet x 8 feet x 24 inches thick
ITEM No. 3.—West wall.....	50 feet x 8 feet x 24 inches thick
ITEM No. 4.—South wall.....	100 feet x 8 feet x 24 inches thick
ITEM No. 5.—South wall, L.....	5 feet x 8 feet x 24 inches thick
ITEM No. 6.—East or front.....	50 feet x 8 feet x 24 inches thick

305 feet x 8 feet x 24 inches thick equals 2,440 cubic feet.

2,440 Cubic feet equals 24 2-5 cords—we will say 25 cords for the building.

COST OF WORK OF THE ABOVE ITEMS AT A FIXED PRICE

25 Cords of stone delivered wall measure at \$8.00 x 25 cords equals.....	\$200.00
25 Cubic yards of sand to lay 25 cords; at \$1.00 x 25 cubic yards equals.....	25.00
75 Bushels or 25 barrels of lime at 22 cents x 75 bushels equals.....	16.50
25 Cords, labor laying, mason's \$5.00 (8 hours) and helper \$2.50 combine \$7.50 at \$7.21 2-13 x 25 cords equals (see Table No. 9).....	\$180.28 11-13
25 Cords, foreman's wages say 50 cents per cord, 50 cents x 25 cords equals.....	12.50
25 Scaffolding, tools, etc., 3 loads to building, 3 loads from building at \$1.00, \$1.00 x 6 loads....	6.00
25 Cords, water for same say 10 cents per cord, 10 cents x 25 cords equals.....	2.50
25 Cords divided into \$442.78 equals \$17.71 3-25 per cord.....	\$442.78 11-13
Contractor's profit, say 10%.....	44.27
Contract price for work complete.....	\$487.05
Or \$19.48 1-5 per cord.	

As these foregoing prices are given with the understanding that all material and labor will cost as above shown for 25 cords of stone or as per one cord, we must figure the cost of all material and labor as you have to pay for same; then carry out the same system or similar as you see best. The same may apply to perches or cubic feet.

TABLE NO. 43.

SUPERINTENDENT, FOREMAN, TIMEKEEPER, WATER CARRIER, ETC.

Wages combined, showing the cost to be added per perch or cord. Combined wages for one or more the above named help. Basis 20 perches or 5 cords laid per day, four or five masons, 8 hours per day:

Wages combined.....	\$ 4.00	\$ 4.25	\$ 4.50	\$ 4.75	\$ 5.00	\$ 5.25	\$ 5.50
Cost per perch (cts.).....	.20	.21¼	.22½	.23¾	.25	.26¼	.27½
Cost per cord.....	\$.80	\$.85	\$.90	\$.95	\$ 1.00	\$ 1.05	\$ 1.10
Wages combined.....	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.25
Cost per perch (cts.).....	.28¾	.30	.31¼	.32½	.33¾	.35	.36¼
Cost per cord.....	\$ 1.15	\$ 1.20	\$ 1.25	\$ 1.30	\$ 1.35	\$ 1.40	\$ 1.45
Wages combined.....	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25	\$ 8.50	\$ 8.75	\$ 9.00
Cost per perch (cts.).....	.37½	.38¾	.40	.41¼	.42½	.43¾	.45
Cost per cord.....	\$ 1.50	\$ 1.55	\$ 1.60	\$ 1.65	\$ 1.70	\$ 1.75	\$ 1.80
Wages combined.....	\$ 9.25	\$ 9.50	\$ 9.75	\$ 10.00	\$ 10.25	\$ 10.50	\$ 11.00
Cost per perch (cts.).....	.46¼	.47½	.48¾	.50	.51¼	.52½	.55
Cost per cord.....	\$ 1.85	\$ 1.90	\$ 1.95	\$ 2.00	\$ 2.05	\$ 2.10	\$ 2.20
Wages combined.....	\$ 11.50	\$ 12.00	\$ 13.00	\$ 14.00	\$ 15.00		
Cost per perch (cts.).....	.57½	.60	.65	.70	.75		
Cost per cord.....	\$ 2.30	\$ 2.40	\$ 2.60	\$ 2.80	\$ 3.00		

7th A. Vol. 26.

SUPERINTENDENT, FOREMAN, TIMEKEEPER, WATER CARRIER, ETC.

Wages combined for one or more the above named help. Basis 24 perches or 6 cords laid per day, five or six masons, 8 hours per day:

Wages combined.....	\$ 4.00	\$ 4.25	\$ 4.50	\$ 4.75	\$ 5.00	\$ 5.25	\$ 5.50
Cost per perch (cts.).....	.16 $\frac{3}{4}$	17 17-24	.18 $\frac{3}{4}$	19 19-24	20 5-6	.21 $\frac{1}{2}$	22 11-12
Cost per cord (cts.).....	.66 $\frac{3}{4}$	70 5-6	.75	.79 $\frac{1}{2}$	.83 $\frac{1}{2}$	.87 $\frac{1}{2}$	.91 $\frac{1}{2}$
Wages combined.....	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.25
Cost per perch (cts.).....	23 23-24	.25	26 1-24	27 1-12	.28 $\frac{1}{2}$	.29 $\frac{1}{2}$	30 5-24
Cost per cord (cts.).....	95 5-6	\$ 1.00	\$ 1.04 $\frac{1}{2}$	\$ 1.08 $\frac{1}{2}$	\$ 1.12 $\frac{1}{2}$	\$ 1.16 $\frac{3}{4}$	\$1.20 5-6
Wages combined.....	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25	\$ 8.50	\$ 8.75	\$ 9.00
Cost per perch (cts.).....	.31 $\frac{1}{2}$	32 7-24	.33 $\frac{1}{2}$	.34 $\frac{3}{4}$	35 5-12	36 11-24	.37 $\frac{1}{2}$
Cost per cord (cts.).....	\$ 1.25	\$ 1.29 $\frac{1}{2}$	\$ 1.33 $\frac{1}{2}$	\$ 1.37 $\frac{1}{2}$	\$ 1.41 $\frac{3}{4}$	\$145 5-6	\$ 1.50
Wages combined.....	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00	\$10.25	\$10.50	\$11.00
Cost per perch (cts.).....	38 13-24	39 7-12	.40 $\frac{1}{2}$	.41 $\frac{3}{4}$	42 17-24	.43 $\frac{3}{4}$	45 5-6
Cost per cord (cts.).....	\$ 1.54 $\frac{1}{2}$	\$ 1.58 $\frac{1}{2}$	\$ 1.62 $\frac{1}{2}$	\$ 1.66 $\frac{3}{4}$	\$1.70 5-6	\$ 1.75	\$ 1.83 $\frac{1}{2}$

SUPERINTENDENT, FOREMAN, TIMEKEEPER, WATER CARRIER, ETC.

Wages combined for one or more the above named help. Basis 28 perches or 7 cords laid per day, six or seven masons, 8 hours per day:

Wages combined.....	\$ 4.00	\$ 4.25	\$ 4.50	\$ 4.75	\$ 5.00	\$ 5.25	\$ 5.50
Cost per perch (cts.).....	14 2-7	15 5-28	16 1-14	16 27-28	17 6-7	.18%	19 9-14
Cost per cord (cts.).....	.57½	60 5-7	64 2-7	67 6-7	71 3-7	.75	78 4-7
Wages combined.....	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.25
Cost per perch (cts.).....	20 15-28	21 3-7	22 9-28	.23%	24 3-28	.25	25 25-28
Cost per cord (cts.).....	82 1-7	85 5-7	89 2-7	92 6-7	96 3-7	\$ 1.00	\$1.03 4-7
Wages combined.....	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25	\$ 8.50	\$ 8.75	\$ 9.00
Cost per perch (cts.).....	26 11-14	27 19-28	28 4-7	29 13-28	30 5-14	.31%	32 1-7
Cost per cord (cts.).....	\$1.07 1-7	\$1.10 5-7	\$1.14 2-7	\$1.17 6-7	\$1.21 3-7	\$ 1.25	\$1.28 4-7
Wages combined.....	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00	\$10.25	\$10.50	\$11.00
Cost per perch (cts.).....	33 1-26	33 13-14	34 23-28	35 5-7	36 17-28	.37½	39 2-7
Cost per cord (cts.).....	\$1.32 1-7	\$1.35 5-7	\$1.39 2-7	\$1.42 6-7	\$1.46 3-7	\$ 1.50	\$1.57 1-7
Wages combined.....	\$11.50	\$12.00	\$13.00	\$14.00	\$15.00		
Cost per perch (cts.).....	41 1-14	42 6-7	46 3-7	.50	53 4-7		
Cost per cord (cts.).....	\$1.64 2-7	\$1.71 3-7	\$1.85 5-7	\$ 2.00	\$2.14 2-7		
Cost							

TABLE No. 26.

SUPERINTENDENT, FOREMAN, TIMEKEEPER, WATER CARRIER, ETC.

Wages combined for one or more the above named help. Basis 32 perches or 8 cords laid per day, seven or eight masons, 8 hours per day:

Wages combined.....	\$ 4.00	\$ 4.25	\$ 4.50	\$ 4.75	\$ 5.00	\$ 5.25	\$ 5.50
Cost per perch (cts.).....	.12½	13 9-32	.14½	14 27-32	.15½	16 3-32	17 3-16
Cost per cord (cts.).....	.50	.53½	.56¼	.59½	.62½	.65½	.68¾
Wages combined.....	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.25
Cost per perch (cts.).....	17 31-32	.18¾	19 17-32	.20½	21 3-32	.21¾	22 21-32
Cost per cord (cts.).....	.71½	.75	.78½	.81¾	.84¾	.87½	.90½
Wages combined.....	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25	\$ 8.50	\$ 8.75	\$ 9.00
Cost per perch (cts.).....	.23½	24 7-32	.25	25 15-32	.26½	27 1-32	.28½
Cost per cord (cts.).....	.93¾	.96¾	\$ 1.00	\$ 1.03½	\$ 1.06½	\$ 1.09¾	\$ 1.12½
Wages combined.....	\$ 9.25	\$ 9.50	\$ 9.75	\$ 10.00	\$ 10.25	\$ 10.50	\$ 11.00
Cost per perch (cts.).....	28 29-32	.29¾	30 15-32	.31¼	32 1-32	.32¾	.34¾
Cost per cord (cts.).....	\$ 1.15½	\$ 1.18¾	\$ 1.21W	\$ 1.25	\$ 1.28½	\$ 1.31¼	\$ 1.37½
Wages combined.....	\$ 11.50	\$ 12.00	\$ 13.00	\$ 14.00	\$ 15.00		
Cost per perch (cts.).....	.35¾	.37¾	.40¾	.43¾	.46¾		
Cost per cord (cts.).....	\$ 1.43¾	\$ 1.50	\$ 1.62½	\$ 1.75	\$ 1.87½		

SUPERINTENDENT, FOREMAN, TIMEKEEPER, WATER CARRIER, ETC.

Wages combined for one or more the above named help. Basis 36 perch or 9 cords laid per day, eight or nine masons, 8 hours per day:

Wage combined.....	\$ 4.00	\$ 4.25	\$ 4.50	\$ 4.75	\$ 5.00	\$ 5.25	\$ 5.50
Cost per perch (cts.).....	.11 $\frac{1}{2}$	11 29-36	.12 $\frac{1}{2}$	13 7-36	13 8-9	14 7-11	15 5-18
Cost per cord (cts.).....	44 4-9	47 2-9	.50	52 7-9	55 5-9	.58 $\frac{1}{2}$	61 1-9
Wages combined.....	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.25
Cost per perch (cts.).....	15 35-36	.16 $\frac{1}{2}$	17 13-36	18 1-18	.18 $\frac{3}{4}$	19 4-9	20 $\frac{1}{2}$
Cost per cord (cts.).....	63 8-9	.65 $\frac{1}{2}$	69 4-9	73 2-9	.75	77 7-9	80 5-9
Wages combined.....	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25	\$ 8.50	\$ 8.75	\$ 9.00
Cost per perch (cts.).....	20 5-6	21 19-36	22 2-9	22 11-12	23 11-18	24 11-36	.25
Cost per cord (cts.).....	.83 $\frac{1}{2}$	86 1-9	88 8-9	.91 $\frac{3}{4}$	94 2-9	97 2-9	\$ 1.00
Wages combined.....	\$ 9.25	\$ 9.50	\$ 9.75	\$ 10.00	\$ 10.25	\$ 10.50	\$ 11.00
Cost per perch (cts.).....	25 25-36	26 7-18	27 1-12	27 7-9	28 17-36	.29 $\frac{1}{2}$	30 5-9
Cost per cord (cts.).....	\$ 1.02 7-9	\$ 1.05 5-9	\$ 1.08 $\frac{1}{2}$	\$ 1.11 1-9	\$ 1.13 8-9	\$ 1.16 $\frac{1}{2}$	\$ 1.22 2-9
Wages combined.....	\$ 11.50	\$ 12.00	\$ 13.00	\$ 14.00	\$ 15.00		
Cost per perch (cts.).....	31 17-18	.33 $\frac{1}{2}$	36 1-9	38 8-9	.41 $\frac{3}{4}$		
Cost per cord (cts.).....	\$ 1.27 7-9	\$ 1.33 $\frac{1}{2}$	\$ 1.44 4-9	\$ 1.55 5-9	\$ 1.66 $\frac{3}{4}$		

TABLE No. 28.

SUPERINTENDENT, FOREMAN, TIMEKEEPER, WATER CARRIER, ETC.

Wages combined for one or more the above named help. Basis 40 perches or 10 cords laid per day, nine or ten masons, 8 hours per day:

Wages combined.....	\$ 4.00	\$ 4.25	\$ 4.50	\$ 4.75	\$ 5.00	\$ 5.25	\$ 5.50
Cost per perch (cts.).....	.10	.10 $\frac{5}{8}$	.11 $\frac{1}{4}$	.11 $\frac{7}{8}$	.12 $\frac{1}{2}$	.13 $\frac{1}{8}$	.13 $\frac{3}{4}$
Cost per cord (cts.).....	.40	.42 $\frac{1}{2}$	.45	.47 $\frac{1}{2}$	.50	.52 $\frac{1}{2}$	.55
Wages combined.....	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.25
Cost per perch (cts.).....	.14 $\frac{3}{4}$	.15	.15 $\frac{5}{8}$	.16 $\frac{1}{2}$	.16 $\frac{7}{8}$	.17 $\frac{1}{2}$	.18 $\frac{1}{2}$
Cost per cord (cts.).....	.57 $\frac{1}{2}$	.60	.62 $\frac{1}{2}$	.65	.67 $\frac{1}{2}$	.70	.72 $\frac{1}{2}$
Wages combined.....	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25	\$ 8.50	\$ 8.75	\$ 9.00
Cost per perch (cts.).....	.18 $\frac{3}{4}$	.19 $\frac{3}{8}$	.20	.20 $\frac{5}{8}$	.21 $\frac{1}{4}$	.21 $\frac{7}{8}$	.22 $\frac{1}{2}$
Cost per cord (cts.).....	.75	.77 $\frac{1}{2}$	.80	.82 $\frac{1}{2}$	.85	.87 $\frac{1}{2}$	.90
Wages combined.....	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00	\$10.25	\$10.50	\$11.00
Cost per perch (cts.).....	.23 $\frac{1}{2}$	.23 $\frac{3}{4}$	.24 $\frac{3}{8}$	.25	.25 $\frac{5}{8}$	.26 $\frac{1}{4}$	.27 $\frac{1}{2}$
Cost per cord (cts.).....	.92 $\frac{1}{2}$	.95	.97 $\frac{1}{2}$	1.00	\$ 1.02 $\frac{1}{2}$	\$ 1.05	\$ 1.10
Wages combined.....	\$11.50	\$12.00	\$13.00	\$14.00	\$15.00		
Cost per perch (cts.).....	.28 $\frac{3}{4}$	.30	.32 $\frac{1}{2}$	.35	.37 $\frac{1}{2}$		
Cost per cord (cts.).....	\$ 1.15	\$ 1.20	\$ 1.30	\$ 1.40	\$ 1.50		

TABLE IV. 27.

SUPERINTENDENT FOREMAN, TIMEKEEPER, WATER CARRIER, ETC.

Wages combined for one or more the above named help. Basis 44 perches or 11 cords laid per day, ten or eleven masons, 8 hour per day:

Wages combined.....	\$ 4.00	\$ 4.25	\$ 4.50	\$ 4.75	\$ 5.00	\$ 5.25	\$ 5.50
Cost per perch (cts.).....	9 1-11	9 29-44	10 5-22	10 25-44	11 4-11	11 41-44	.12½
Cost per cord (cts.).....	36 4-11	38 7-11	40 10-11	43 2-11	45 5-11	47 8-11	.50
Wages combined.....	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.25
Cost per perch (cts.).....	13 3-44	13 7-11	14 9-44	14 17-22	15 15-44	15 10-11	.16½
Cost per cord (cts.).....	52 3-11	54 6-11	56 9-11	59 1-11	61 4-11	63 7-11	65 10-11
Wages combined.....	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25	\$ 8.50	\$ 8.75	\$ 9.00
Cost per perch (cts.).....	17 1-22	17 27-44	18 2-11	.18¾	19 7-22	19 39-44	20 5-11
Cost per cord (cts.).....	68 2-11	70 5-11	72 8-11	.75	77 3-11	79 6-11	81 9-11
Wages combined.....	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00	\$10.25	\$10.50	\$11.00
Cost per perch (cts.).....	21 1-44	21 13-22	22 7-24	22 8-11	23 13-44	23 19-22	.25
Cost per cord (cts.).....	84 1-11	86 4-11	88 7-11	90 10-11	93 2-11	95 5-11	\$ 1.00
Wages combined.....	\$11.50	\$12.00	\$13.00	\$14.00	\$15.00		
Cost per perch (cts.).....	26 3-22	27 3-11	29 6-11	31 9-11	34 1-11		
Cost per cord (cts.).....	\$104 6-11	\$1.09 1-11	\$1.18 2-11	\$1.27 3-11	\$1.36 4-11		

SUPERINTENDENT, FOREMAN, TIMEKEEPER, WATER CARRIER, ETC.

Wages combined for one or more the above named help. Basis: 48 perches or 12 cords laid per day, eleven or twelve masons, 8 hour per day:

Wages combined.....	\$ 4.00	\$ 4.25	\$ 4.50	\$ 4.75	\$ 5.00	\$ 5.25	\$ 5.50
Cost per perch (cts.).....	.08½	8-41-48	.09½	9-43-48	10-5-72	10-5-72	10-5-72
Cost per cord (cts.).....	.33½	35-5-12	.37½	39-7-12	41½	43½	45-5-0
Wages combined.....	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.25
Cost per perch (cts.).....	11-47-48	.12½	13-1-48	13-13-24	14½	14-7-12	15-5-48
Cost per cord (cts.).....	47-11-12	.50	52-1-12	54½	56½	58½	60-5-12
Wages combined.....	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25	\$ 8.50	\$ 8.75	\$ 9.00
Cost per perch (cts.).....	.15½	16-7-48	.16½	.17½	17-17-24	18-11-48	18½
Cost per cord (cts.).....	.62½	64-7-12	.66½	.68½	70-5-6	72-11-12	.75
Wages combined.....	\$ 9.25	\$ 9.50	\$ 9.75	\$ 10.00	\$ 10.25	\$ 10.50	\$ 11.00
Cost per perch (cts.).....	19-13-48	19-19-24	.20-5-6	20-5-6	21-17-48	.21½	22-11-12
Cost per cord (cts.).....	77-1-12	.79½	.81½	.83½	85-5-12	.87½	.91½
Wages combined.....	\$ 11.50	\$ 12.00	\$ 13.00	\$ 14.00	\$ 15.00		
Cost per perch (cts.).....	23-23-24	.25	27-1-12	.29½	.31½		
Cost per cord (cts.).....	95-5-6	\$ 1.00	\$ 1.08½	\$ 1.18	\$ 1.25		

TABLE NO. 31.

SUPERINTENDENT, FOREMAN, TIMEKEEPER, WATER CARRIER, ETC.

Wages combined for one or more the above named help. Basis 52 perches or 13 cords laid per day twelve or thirteen masons, 8 hours per day:

Wages combined.....	\$ 4.00	\$ 4.25	\$ 4.50	\$ 4.75	\$ 5.00	\$ 5.25	\$ 5.50
Cost per perch (cts.).....	7 36-52	8 1-52	8 17-26	9 7-52	9 8-13	10 5-52	.10%
Cost per cord (cts.).....	30 10-13	32 9-13	34 8-13	36 7-13	38 6-13	40 5-13.	42 4-13
Wages combined.....	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.25
Cost per perch (cts.).....	11 3-52	11 7-13	12 1-52	.12½	12 51-52	13 6-13	13 49-52
Cost per cord (cts.).....	44 3-13	46 2-13	48 1-13	.50½	51 12-13	53 11-13	55 10-13
Wages combined.....	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25	\$ 8.50	\$ 8.75	\$ 9.00
Cost per perch (cts.).....	14 11-26	14 47-52	15 5-13	15 42-52	16 9-26	16 43-52	17 4-13
Cost per cord (cts.).....	55 5-6	59 8-13	61 7-13	63 6-13	65 5-13	67 4-13	69 3-13
Wages combined.....	\$ 9.25	\$ 9.50	\$ 9.75	\$ 10.00	\$ 10.25	\$ 10.50	\$ 11.00
Cost per perch (cts.).....	17 41-52	18 7-26	18 39-52	19 3-13	19 37-52	20 5-26	21 2-13
Cost per cord (cts.).....	71 2-13	73 1-13	.75	76 12-13	78 11-13	80 10-13	84 8-13
Wages combined.....	\$ 11.50	\$ 12.00	\$ 13.00	\$ 14.00	\$ 15.00		
Cost per perch (cts.).....	22 3-26	23 1-13	.25	26 12-13	28 11-13		
Cost per cord (cts.).....	88 6-13	92 4-13	\$ 1.00	\$ 1.07 9-13	\$ 1.15 5-13		

TABLE No. 32.

SUPERINTENDENT, FOREMAN, TIMEKEEPER, WATER CARRIER, ETC.

Wages combined for one or more the above named help. Basis 56 perches or 14 cords laid per day, thirteen or fourteen mason, 8 hours per day:

Wages combined.....	\$ 4.00	\$ 4.25	\$ 4.50	\$ 4.75	\$ 5.00	\$ 5.25	\$ 5.50
Cost per perch (cta.).....	7 1-7	7 33-56	8 1-28	8 27-56	8 13-14	.09 1/2	9 23-28
Cost per cord (cta.).....	28 4-7	30 5-14	32 1-7	33 13-14	35 5-7	.37 1/2	39 2-7
Wages combined.....	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.25
Cost per perch (cta.).....	10 15-56	10 5-7	11 9-56	11 17-28	12 3-56	.12 1/2	12 53-56
Cost per cord (cta.).....	41 1-14	42 6-7	44 9-14	46 3-7	48 3-14	.50	57 11-14
Wages combined.....	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25	\$ 8.50	\$ 8.75	\$ 9.00
Cost per perch (cta.).....	13 11-28	13 47-56	14 2-7	14 41-47	15 5-28	15 35-56	16 1-14
Cost per cord (cta.).....	53 4-7	55 5-14	57 1-7	58 13-14	60 5-7	.62 1/2	64 2-7
Wages combined.....	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00	\$10.25	\$10.50	\$11.00
Cost per perch (cta.).....	16 29-56	16 27-28	17 23-56	17 6-7	18 17-56	.18 1/2	19 9-14
Cost per cord (cta.).....	66 1-14	67 6-7	69 9-14	71 3-7	73 3-14	.75	78 4-7
Wages combined.....	\$11.50	\$12.00	\$13.00	\$14.00	\$15.00		
Cost per perch (cta.).....	20 15-28	21 3-7	23 3-14	.25	26 11-14		
Cost per cord (cta.).....	82 1-7	85 5-7	92 6-7	\$ 1.00	\$1.07 1-7		

SUPERINTENDENT, FOREMAN, TIMEKEEPER, WATER CARRIER, ETC.

Wages combined for one or more the above named help. Basis 60 perches or 15 cords laid per day, fourteen or fifteen masons, 8 hours per day:

Wages combined.....	\$ 4.00	\$ 4.25	\$ 4.50	\$ 4.75	\$ 5.00	\$ 5.25	\$ 5.50
Cost per perch (cts.).....	.06 $\frac{3}{4}$	7 1-12	.07 $\frac{1}{2}$	7 11-12	.08 $\frac{1}{4}$	.08 $\frac{3}{4}$	.09 $\frac{1}{4}$
Cost per cord (cts.).....	.26 $\frac{3}{4}$	.28 $\frac{1}{4}$	.30	.31 $\frac{3}{4}$	.33 $\frac{1}{4}$	.35	.36 $\frac{3}{4}$
Wages combined.....	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.25
Cost per perch (cts.).....	9 7-12	.10	10 5-12	10 5-6	.11 $\frac{1}{4}$	.11 $\frac{3}{4}$	12 1-12
Cost per cord (cts.).....	.38 $\frac{1}{4}$	.40	.41 $\frac{3}{4}$	.43 $\frac{1}{4}$	.45	.46 $\frac{3}{4}$	.48 $\frac{1}{4}$
Wages combined.....	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25	\$ 8.50	\$ 8.75	\$ 9.00
Cost per perch (cts.).....	.12 $\frac{1}{2}$	12 11-12	.13 $\frac{1}{4}$	.13 $\frac{3}{4}$	.14 $\frac{1}{4}$	14 7-12	.15
Cost per cord (cts.).....	.50	.51 $\frac{3}{4}$	.53 $\frac{1}{4}$	.55	.56 $\frac{3}{4}$	.58 $\frac{1}{4}$	.60
Wages combined.....	\$ 9.25	\$ 9.50	\$ 9.75	\$ 10.00	\$ 10.25	\$ 10.50	\$ 11.00
Cost per perch (cts.).....	15 5-12	15 5-6	.16 $\frac{1}{4}$	.16 $\frac{3}{4}$	17 1-12	.17 $\frac{3}{4}$	.18 $\frac{1}{4}$
Cost per cord (cts.).....	.61 $\frac{3}{4}$	.63 $\frac{1}{4}$	.65	.66 $\frac{3}{4}$	.68 $\frac{1}{4}$	.70	.73 $\frac{1}{4}$
Wages combined.....	\$ 11.50	\$ 12.00	\$ 13.00	\$ 14.00	\$ 15.00		
Cost per perch (cts.).....	.19 $\frac{1}{4}$	.20	.21 $\frac{3}{4}$	.23 $\frac{1}{4}$	.25		
Cost per cord (cts.).....	.76 $\frac{3}{4}$	.80	.86 $\frac{3}{4}$	.93 $\frac{1}{4}$	\$ 1.00		

TABLE No. 34.

SUPERINTENDENT, FOREMAN, TIMEKEEPER, WATER CARRIER, ETC.

Wages combined for one for more the above named help. Basis 64 perches or 16 cords laid per day, fifteen or sixteen masons, 8 hours per day:

Wages combined.....	\$ 4.00	\$ 4.25	\$ 4.50	\$ 4.75	\$ 5.00	\$ 5.25	\$ 5.50
Cost per perch (cts.).....	.06¼	6 41-64	7 1-32	7 27-64	.07½	8 13-64	8 19-32
Cost per cord (cts.).....	.25	.26½	.28½	.29½	.31¼	.32½	.34½
Wages combined.....	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.25
Cost per perch (cts.).....	8 63-64	.09½	9 49-64	10 5-32	10 35-64	.10½	11 21-64
Cost per cord (cts.).....	.35½	.37½	.39½	.40½	.42½	.43¾	.45 5-16
Wages combined.....	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25	\$ 8.50	\$ 8.75	\$ 9.00
Cost per perch (cts.).....	11 23-32	12 7-64	12½	12 51-64	13 9-32	13 43-64	.14½
Cost per cord (cts.).....	.46½	.48½	.50	.51½	.53½	.54½	.56½
Wages combined.....	\$ 9.25	\$ 9.50	\$ 9.75	\$ 10.00	\$ 10.25	\$ 10.50	\$ 11.00
Cost per perch (cts.).....	14 29-64	14 27-32	15 15-64	.15½	16 1-64	16 13-62	.17½
Cost per cord (cts.).....	.57½	.59½	.60½	.62½	.64½	.65½	.68½
Wages combined.....	\$ 11.50	\$ 12.00	\$ 13.00	\$ 14.00	\$ 15.00		
at per perch (cts.)	17 31-32	18½	20 5-16	21½	22½		

SUPERINTENDENT, FOREMAN, TIMEKEEPER, WATER CARRIER, ETC.

Wages combined for one or more the above named help. Basis 68 perches or 17 cords laid per day, sixteen or seventeen masons, 8 hours per day:

Wages combined.....	\$ 4.00	\$ 4.25	\$ 4.50	\$ 4.75	\$ 5.00	\$ 5.25	\$ 5.50
Cost per perch (cts.).....	5 15-17	6 17-68	6 21-34	6 67-68	7 6-17	7 49-68	8 3-34
Cost per cord (cts.).....	23 9-17	.25	26 8-17	27 6-17	29 7-17	30 15-17	32 6-17
Wages combined.....	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.25
Cost per perch (cts.).....	8 31-68	8 14-17	9 13-68	9 19-34	9 63-68	10 5-17	10 45-68
Cost per cord (cts.).....	33 14-17	35 5-17	36 2-17	38 4-17	39 12-17	41 3-17	42 11-17
Wages combined.....	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25	\$ 8.50	\$ 8.75	\$ 9.00
Cost per perch (cts.).....	11 1-34	11 29-68	11 13-17	12 9-68	12 1½	12 59-68	13 4-17
Cost per cord (cts.).....	44 2-17	45 10-17	47 1-17	48 9-17	.50	51 8-17	52 16-17
Wages combined.....	\$ 9.25	\$ 9.50	\$ 9.75	\$ 10.00	\$ 10.25	\$ 10.50	\$ 11.00
Cost per perch (cts.).....	13 41-68	13 33-34	14 23-68	14 12-17	15 5-68	15 15-34	16 3-17
Cost per cord (cts.).....	54 7-17	55 15-17	57 6-17	58 14-17	60 5-17	61 13-17	64 12-17
Wages combined.....	\$ 11.50	\$ 12.00	\$ 13.00	\$ 14.00	\$ 15.00		
Cost per perch (cts.).....	16 31-34	17 22-34	19 2-17	20 10-17	22 1-17		
Cost per cord (cts.).....	67 11-17	70 10-17	76 8-17	82 6-17	88 4-17		
Cost per cord (cts.).....							

TABLE No. 36.

SUPERINTENDENT, FOREMAN, TIMEKEEPER, WATER CARRIER, ETC.

Wages combined for one or more the above named help. Basis 72 perches or 18 cords laid per day, seventeen or eighteen masons, 8 hours per day:

Wages combined.....	\$ 4.00	\$ 4.25	\$ 4.50	\$ 4.75	\$ 5.00	\$ 5.25	\$ 5.50
Cost per perch (cts.).....	5 20-31	5 65-72	.06 1/4	6 43-72	6 17-18	7 7-24	7 23-36
Cost per cord (cts.).....	22 2-9	23 11-18	.25	26 7-18	27 7-9	.29 1/2	30 5-9
Wages combined.....	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.25
Cost per perch (cts.).....	7 71-72	.08 1/2	8 49-72	9 1-36	9 27-72	9 13-18	10 5-72
Cost per cord (cts.).....	31 17-18	.33 1/2	34 13-18	36 1-9	.37 1/2	38 8-9	40 5-18
Wages combined.....	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25	\$ 8.50	\$ 8.75	\$ 9.00
Cost per perch (cts.).....	10 5-12	10 55-72	11 1-9	11 33-72	11 29-36	12 11-72	.12 1/2
Cost per cord (cts.).....	.41 3/4	43 1-18	44 4-19	45 5-6	.47 1/2	48 11-18	.50
Wages combined.....	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00	\$10.25	\$10.50	\$11.00
Cost per perch (cts.).....	12 61-72	13 7-36	13 39-72	13 8-9	14 17-72	14 21-36	15 5-18
Cost per cord (cts.).....	51 7-18	52 7-9	.54 1/2	55 5-9	56 17-18	.58 1/2	61 1-9
Wages combined.....	\$11.50	\$12.00	\$13.00	\$14.00	\$15.00		
Cost per perch (cts.).....	15 35-36	.16 3/4	18 1-18	19 4-9	20 5-6		
Cost per cord (cts.).....	63 8-9	.66 3/4	72 2-9	77 7-9	.83 1/2		

SUPERINTENDENT FOREMAN, TIMEKEEPER, WATER CARRIER, ETC.

Wages combined for one or more the above named help. Basis 76 perches or 19 cords laid per day, eighteen or nineteen masons, 8 hours per day:

Wages combined.....	\$ 4.00	\$ 4.25	\$ 4.50	\$ 4.75	\$ 5.00	\$ 5.25	\$ 5.50
Cost per perch (cts.).....	5 5-19	5 45-76	5 35-38	6 19-76	6 11-19	6 69-76	7 9-38
Cost per cord (cts.).....	21 1-19	22 7-19	23 13-19	.25	26 6-19	27 12-19	28 18-19
Wages combined.....	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.25
Cost per perch (cts.).....	7 43-76	7 17-18	8 17-76	8 21-38	8 67-76	9 4-19	9 41-76
Cost per cord (cts.).....	30 5-19	31 11-19	32 17-19	34 4-19	35 10-19	36 16-19	38 3-19
Wages combined....	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25	\$ 8.50	\$ 8.75	\$ 9.00
Cost per perch (cts.).....	9 33-38	10 15-76	10 10-19	10 65-76	11 7-38	11 39-76	11 16-19
Cost per cord (cts.).....	39 9-19	40 15-19	42 2-19	43 8-19	44 14-19	46 1-19	47 7-19
Wages combined.....	\$ 9.25	\$ 9.50	\$ 9.75	\$10.0	\$10.25	\$10.50	\$11.00
Cost per perch (cts.).....	12 13-76	12 19-38	12 63-76	13 3-19	13 37-62	13 31-38	14 9-19
Cost per cord (cts.).....	48 13-19	.50	51 6-19	52 12-19	53 8-19	55 5-19	57 17-19
Wages combined.....	\$11.50	\$12.00	\$13.00	\$14.00	\$15.00		
Cost per perch (cts.).....	15 5-38	15 15-19	17 2-19	18 8-19	19 14-19		
Cost per cord (cts.).....	60 10-19	63 3-19	68 8-19	73 13-19	78 18-19		

TABLE No. 38.

SUPERINTENDENT, FOREMAN, TIMEKEEPER, WATER CARRIER, ETC.

Wages combined for one or more the above named help. Basis 80 perches or 20 cords laid per day, nineteen or twenty masons, 8 hours per day:

Wages combined.....	\$ 4.00	\$ 4.25	\$ 4.50	\$ 4.75	\$ 5.00	\$ 5.25	\$ 5.50
Cost per perch (cts.).....	.05	.05½	.05½	.05½	.06¼	.06½	.06¾
Cost per cord (cts.).....	.20	.2¼	.22½	.23¼	.25	.26¼	.27½
Wages combined.....	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.25
Cost per perch (cts.).....	.07¾	.07½	.07¾	.08½	.08¾	.08¾	.09¼
Cost per cord (cts.).....	.28¾	.30	.31¼	.32½	.33¼	.35	.36¼
Wages combined.....	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25	\$ 8.50	\$ 8.75	\$ 9.00
Cost per perch (cts.).....	.09¾	.09½	.10	.10½	.10½	.10½	.11¼
Cost per cord (cts.).....	.37¼	.38¾	.40	.41¼	.42½	.43¾	.45
Wages combined.....	\$ 9.25	\$ 9.50	\$ 9.75	\$ 10.00	\$ 10.25	\$ 10.50	\$ 11.00
Cost per perch (cts.).....	.11¾	.11½	.12¾	.12½	.12¾	.13½	.13¾
Cost per cord (cts.).....	.46¾	.47½	.48¾	.50	.51¼	.52½	.55
Wages combined.....	\$ 11.50	\$ 12.00	\$ 13.00	\$ 14.00	\$ 15.00		
Cost per perch (cts.).....	.14¾	.15	.16¾	.17½	.18¾		
Cost per cord (cts.).....					.75		

at \$15.00 per combined wages, the cost of 1 perch, 37½ cents or \$1.50 per cord. The basis shows 40 perches or 10 cords laid per day; to work 8 hours per day would require the foreman to handle nine or ten masons. This would depend on class of work, quality of stone and thickness of walls, etc. The difference in one mason more or less, would make only a few cents per perch or cord. To find approximate cost per perch or cord, we must determine about the quantity of work expected to lay each day, then see tables on basis.

TABLE NO. 39.

PLASTERING THE EXTERIOR OF STONE WALLS BELOW GRADE TO MAKE DAMP PROOF

½ to ¾ Inches in thickness (1 coat). Cement, one part sand, one part (to be rough). Labor cost combined, mason's plastering, \$4.00 to \$6.00 per 10 hours; helpers or mortar maker, \$1.50 to \$3.50: (10 Hours per day).

Wages combined.....	\$5.50	\$5.75	\$6.00	\$6.25	\$6.50	\$6.75	\$7.00
Cost per square foot (mills) .	7 6-7	8 3-14	8 4-7	8 13-14	9 2-7	9 9-14	.01
Cost per square yd. (cts.)....	7 1-14	7 11-28	7 5-7	8 1-28	8 5-14	8 19-28	.09
Cost per 100 square feet (cts)	78 4-7	82 1-7	85 5-7	89 2-7	92 6-7	96 3-7	\$1.00
Wages combined.....	\$7.25	\$7. 0	\$7.7	\$8.00	\$8.25	\$8.50	\$8.75
Cost per square foot (mills) .	1 1-28	1 1-14	1 3-28	1 1-7	1 5-28	1 3-14	1 7-28
Cost per square yd. (cts.)....	9 9-28	9 9-14	9 27-28	10 2-7	10 17-28	10 13-14	.11½
Cost per 100 square feet (cts.)..	\$1.03 4-7	\$1.07 1-7	\$1.10 5-7	\$1.14 2-7	\$1.17 6-7	\$1.21 3-7	\$1.25

(Continued on page 226.)

TABLE No. 38.

SUPERINTENDENT, FOREMAN, TIMEKEEPER, WATER CARRIER, ETC.

Wages combined for one or more the above named help. Basis 80 perches or 20 cords laid per day, nineteen or twenty masons, 8 hours per day:

Wages combined.....	\$ 4.00	\$ 4.25	\$ 4.50	\$ 4.75	\$ 5.00	\$ 5.25	\$ 5.50
Cost per perch (cts.).....	.05	.05½	.05½	.05½	.06¼	.06½	.06¾
Cost per cord (cts.).....	.20	.2¼	.22½	.23¾	.25	.26¼	.27½
Wages combined.....	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.25
Cost per perch (cts.).....	.07¾	.07½	.07¾	.08½	.08¾	.08¾	.09½
Cost per cord (cts.).....	.28¾	.30	.31¼	.32½	.33¾	.35	.36¼
Wages combined.....	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25	\$ 8.50	\$ 8.75	\$ 9.00
Cost per perch (cts.).....	.09¾	.09½	.10	.10½	.10½	.10½	.11¼
Cost per cord (cts.).....	.37½	.38¾	.40	.41¼	.42½	.43¾	.45
Wages combined.....	\$ 9.25	\$ 9.50	\$ 9.75	\$ 10.00	\$ 10.25	\$ 10.50	\$ 11.00
Cost per perch (cts.).....	.11¾	.11¾	.12¾	.12¾	.12¾	.13½	.13¾
Cost per cord (cts.).....	.46¼	.47½	.48¾	.50	.51¼	.52½	.55
Wages combined.....	\$ 11.50	\$ 12.00	\$ 13.00	\$ 14.00	\$ 15.00		
				17¼			

NOTE.—The foregoing prices for superintendence, etc., are intended to show the difference in prices, according to the number of masons employed. We will take for example: Table No. 28, we employ a superintendent at \$7.00 per day; foreman, \$6.00; timekeeper at \$2.00 per day. These wages combined equals \$15.00 per day. We find in Table No. 28, at \$15.00 per combined wages, the cost of 1 perch, 37½ cents or \$1.50 per cord. The basis shows 40 perches or 10 cords laid per day; to work 8 hours per day would require the foreman to handle nine or ten masons. This would depend on class of work, quality of stone and thickness of walls, etc. The difference in one mason more or less, would make only a few cents per perch or cord. To find approximate cost per perch or cord, we must determine about the quantity of work expected to lay each day, then see tables on basis.

TABLE No. 39.

PLASTERING THE EXTERIOR OF STONE WALLS BELOW GRADE TO MAKE DAMP PROOF
½ to ¾ Inches in thickness (1 coat). Cement, one part sand, one part (to be rough). Labor cost combined, mason's plastering, \$4.00 to \$6.00 per 10 hours; helpers or mortar maker, \$1.50 to \$3.50: (10 Hours per day).

Wages combined.....	\$5.50	\$5.75	\$6.00	\$6.25	\$6.50	\$6.75	\$7.00
Cost per square foot (mills) .	7 6-7	8 3-14	8 4-7	8 13-14	9 2-7	9 9-14	.01
Cost per square yd. (cts.)....	7 1-14	7 11-28	7 5-7	8 1-28	8 5-14	8 19-28	.09
Cost per 100 square feet (cts)	78 4-7	82 1-7	85 5-7	89 2-7	92 6-7	96 3-7	\$1.00
Wages combined.....	\$7.25	\$7. 0	\$7. 7	\$8.00	\$8.25	\$8.50	\$8.75
Cost per square foot (mills) .	1 1-28	1 1-14	1 3-28	1 1-7	1 5-28	1 3-14	1 7-28
Cost per square yd. (cts.)....	9 9-28	9 9-14	9 27-28	10 2-7	10 17-28	10 13-14	.11½
Cost per 100 square feet (cts.).	\$1.03 4-7	\$1.07 1-7	\$1.10 5-7	\$1.14 2-7	\$1.17 6-7	\$1.21 3-7	\$1.25

(Continued on page 226.)

Wages combined.....	\$9.00	\$9.50
Cost per square foot (mills)...	1 2-7	1 5-14
Cost per square yd. (cts.)...	11 4-7	12 3-13
Cost per 100 square feet (cts.).	\$1.28 4-7	\$1.35 5-7

TABLE No. 40.

PLASTERING THE EXTERIOR OF STONE WALLS BELOW GRADE

$\frac{1}{2}$ to $\frac{3}{4}$ Inches in thickness (1 coat). Cement, one part; sand, one part (to be rough). Labor cost combined: Mason's plastering, \$4.00 to \$6.00 per 10 hours; helpers or mortar makers, \$1.50 to \$3.50.

(9 Hours per day).

Wages combined.....	\$5.50	\$5.75	\$6.00	\$6.25	\$6.50	\$6.75	\$7.00
Cost per square foot (mills)...	0 8 46-63	0 9 8-63	0 9 11-21	0 9 58-63	1 2-63	1 1-14	1 1-9
Cost per square yd. (cts.)...	7 6-7	8 3-14	8 4-7	8 13-14	9 2-7	9 9-14	.10
Cost per 100 square feet (cts.).	87 19-63	91 17-63	95 5-21	99 13-63	\$1.03 11-63	\$1.07 1-7	\$1.19 1-9
Wages combined.....	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25	\$8.50	\$8.75
Cost per square foot (mills) .	1 19-126	1 4-21	1 29-126	1 17-63	1 13-42	1 22-63	1 49-126
Cost per square yd. (cts.)...	10 5-14	10 5-7	11 1-14	11 3-7	11 11-14	12 1-7	.12 $\frac{1}{4}$
Cost per 100 square feet (cts.).	\$1.15 5-63	\$1.19 1-21	\$1.23 1-63	\$1.26 62-63	\$1.30 20-21	1.34 58-63	1.38 56-63
Wage combined.....	\$9.00	\$9.50					
Cost per square foot (mills)...	1 3-7	1 32-63					
Cost per square yd. (cts.)...	12 6-7	13 4-9					
Cost per 100 square feet (cts.).	\$1.42 6-7	\$1.50 50-63					

TABLE No. 41.

PLASTERING THE EXTERIOR OF STONE WALLS BELOW GRADE

$\frac{1}{4}$ to $\frac{3}{4}$ Inches in thickness (1 coat). One part cement, one part sand (to be rough). Labor cost combined: Mason's plastering, \$4.00 to \$6.00 per 8 hours; helpers or mortar makers, \$1.50 to \$3.50:

(8 Hours per day).

Wages combined.....	\$5.50	\$5.75	\$6.00	\$6.25	\$6.50	\$6.75	\$7.00
Cost per square foot (mills)..	0.9	23-28	1 3-112	1 1-14	1 13-112	1 9-56	1 23-112
Cost per square yd. (cts.)....	8	5-14	9 27-112	9 9-14	10 5-112	10 25-56	10 95-112
Cost per 100 square feet (cts.).	98	3-14	\$1.02 19-28	\$1.07 2-14	1.11 17-28	\$1.16 1-14	1.20 15-28
Wages combined.....	\$7.25	\$7.5	\$7.75	\$8.00	\$8.25	\$8.50	\$8.75
Cost per square foot (mills)..	1	33-112	1 19-56	1 43-112	1 3-7	1 53-112	1 29-56
Cost per square yd. (cts.)....	11	73-112	12 3-56	12 51-112	12 6-7	13 29-112	13 37-56
Cost per 100 square feet (cts.).	\$1.29	13-28	1.33 13-14	1.38 11-28	\$1.42 6-7	\$1.47 9-28	1.51 11-14
Wages combined.....	\$9.00	\$9.50					
Cost per square foot (mills)..	1	17-28	1 39-56				
Cost per square yd. (cts.)....	14	13-28	15 15-56				
Cost per 100 square feet (cts.).	\$1.60	5-7	\$1.69 9-14				

NOTE.—Prices given on plastering the exterior of stone walls is only figured on the masons covering the surface of walls $\frac{1}{2}$ to $\frac{3}{4}$ inches thick with cement mortar, as it is all to be covered with earth, does not require the work to be even. To plaster the walls to an even surface would require much more labor and

TABLE No. 42.

CEMENT COST FOR PLASTERING STONE WALLS

$\frac{1}{2}$ to $\frac{3}{4}$ Inches thick, mixture one cement and one sand:									
Cement cost per barrel.....	\$1.50	\$1.55	\$1.60				\$1.65	\$1.70	\$1.75
Cost per square foot (cts.)...	.01 $\frac{1}{2}$	1 13-18	1 7-9				1 5-6	1 8-9	1 17-18
Cost per square yd. (cts.)....	.15	.15 $\frac{1}{2}$	.16				.16 $\frac{1}{2}$	.17	.17 $\frac{1}{2}$
Cost per 100 square feet (cts.).	\$1.66 $\frac{3}{4}$	\$1.72 2-9	\$1.77 7-9				\$1.83 $\frac{1}{2}$	\$1.88 8-9	\$1.94 4-9
Cement cost per barrel.....	\$1.85	\$1.90	\$1.95				\$2.00	\$2.25	\$2.50
Cost per square foot (cts.)...	2 1-18	2 1-9	2 3-18				2 2-9	.02 $\frac{1}{2}$	2 7-9
Cost per square yd. (cts.)....	.18 $\frac{1}{2}$	.19	.19 $\frac{1}{2}$				.20	.22 $\frac{1}{2}$	.25
Cost per 100 square feet (cts.).	\$2.05 5-9	\$2.11 1-9	\$2.16 $\frac{3}{4}$	\$2.22 2-9			\$2.50	\$2.77 7-9	

TABLE No. 43.

SAND COST FOR PLASTERING STONE WALLS

$\frac{1}{2}$ to $\frac{3}{4}$ Inches thick, mixture one cement and one sand:									
Sand cost per cubic yd.....	\$.75	\$1.00	\$1.25				\$1.50	\$1.75	\$2.00
Cost per 100 square feet (cts.).....	11 5-7	15 2-7	18 6-7	.22 $\frac{1}{4}$	.26	29 4-9	33 1-7	36 5-7	

As sand is very cheap per square foot, etc., we have given only the cost per 100 square feet. To get the price of sand for a piece of work, figure the number of feet total for the work, then allow the per cent as shown in cost per 100 feet.

EXAMPLE: We have a wall to plaster girthing 200 feet in length and plastered 3 feet in height which equals 600 square feet. We pay masons \$5.00 per 8 hours and mortar makers \$3.00 per day.

Continued on page 229.

feet, \$1.42 6-7 times 6 equals.....	
Cement, \$1.80 per barrel, to plaster 600 square feet; Table No. 42, shows per 100 square feet, \$2.00 times 6 equals.....	12.00
Sand, \$1.75 per cubic yards, to plaster 600 square feet; Table No. 43, shows per 100 square feet 26 cents times 6 equals.....	1.56
Cost per 600 square feet.....	\$22.13 1-7
Cost per square foot about.....	.03 $\frac{3}{4}$
Cost per square yard about.....	.33

The foregoing prices of labor is estimated on the stone mason using a plasterer's trowel, not the use of a mason's trowel, as generally a stone mason has very poor tools to work with. He becomes accustomed to working with a certain trowel and holds onto it perhaps until it has worn down to no practical good.

SETTING STONE WITH DERRICKS.

Setting heavy stone in buildings should never be attempted by the strength of labor, especially when there are large quantities to be placed. It is understood that stone weigh 160 to 170 pounds per cubic foot. If the stone are to be laid as a base at the grade, or other similar work, not requiring many heavy pieces, with no other heavy stone to be laid higher, then stone may be set satisfactory without the use of a derrick. But again if we have a lot of ashlar work or other heavy stone to be laid above this base, we most likely should provide a derrick. If the work is small, a stiff leg derrick may be used to good advantage; one heavy enough to carry the load required and be easily transferred from place to place with few men, who are familiar with the handling of derricks. Not to have good derrick men who understand nothing about the rigging or transferring these derricks from one place to another, may cause much trouble and expense to the contractors. It is a common occurrence to hear of some crew letting a derrick fall; perhaps breaking the derrick and damaging many hundred dollars worth of work, also causing much delay by replacing the damaged work. The

Writers experience has been that employing skilled derrick hands, paying them a few cents per hour more than ordinary labor is well spent if the work is small with only a small amount of derrick work; employ at least one skilled man who will do all the rigging and handling the balance of labor on large work, requiring the steady use of derricks, employ a full crew of skilled derrick hands, pay the difference in wages and get the best results.

Heavy work, when large quantities of stone are used, boom derricks should be used and so placed on the work that every piece of material can be raised and lowered to its proper place without the strain of men trying to pull the stone after it has been carried by the derrick as far as it will reach. If one derrick cannot reach all the work, and the work has to be built at a level then perhaps, it is best to use two or more derricks as to the size of work. Steam or electric power should be used. The following crew of men are generally employed to each derrick when in action, one engineer; one stone setter and helper; two tag men, who load the stone and control the boom by the use of ropes, also mortar maker to supply the setter the mortar. We will attempt to give approximately the cost of setting stone on heavy work, as required on all stone faced buildings. The size of stone, and handiness of same much depends on the cost of labor for setting. The prices given in the following tables do not include the cost of any material, only labor for setting, it is understood the stone is to be delivered on the ground opposite to where it is to be set, so the derrick can readily hoist the stone without the cost of labor, transferring the stone from place to place to hoist. It is well to have stakes driven in the ground, or marks of some kind in sections as your plans show, And as each piece of stone is delivered have it placed opposite the placer to be set. For example; we will say we have four sides of a building to face. The front stone on the setting plans are marked A 1-2-3-4-5-6, we mark od a stake, etc. The A sections, and the numbers of stone which is placed in these positions from the wagons. The north may be B 1-2-3-4-5-6, the other faces may be C and D, or other letters or figures, just as the setting plans show. The stone contractors who furnish the cut stone are supposed to furnish you with these plans. They are required to get out a full set of cutting plans for the cutters at the works and the same drawings

to \$6.00; HELPERS \$1.50 to \$3.50.

Five Men per Crew as follows: One Engineer, One Setter, One Helper with Mason, Two Tag Helpers on ground Supply Stone.

TABLE No. 44.

HEAVY PROJECTIONS AND LARGE FANCY CUT STONE ARCHES NOT INCLUDED

(10 Hours per Day.)

Wages combined per crew...	\$12.00	\$12.50	\$13.00	\$13.50	\$14.00	\$1450.	\$15.00
Cost to Set cubic foot (cts.)..	.08	.08½	.08¾	.09	.09½	.09¾	.10
Wages combined per crew...	\$15.50	\$16.00	\$16.50	\$17.00	\$17.50	\$18.00	\$18.50
Cost to Set cubic foot (cts.)..	.10½	.10¾	.11	.11½	.11¾	.12	.12½
Wages combined per crew.	\$19.00	\$19.50	\$20.00	\$20.50	\$21.00	\$21.50	\$22.00
Cost to Set cubic foot (cts.)..	.12¾	.13	.13½	.13¾	.14	.14½	.14¾
Wages combine pre crew....	\$22.50	\$23.00	\$23.50	\$24.00	\$24.50	\$25.00	
Cost to Set cubic foot (cts.)..	.15	.15½	.15¾	.16	.16½	.16¾	

TABLE No. 45.

PLAIN HEAVY STONE SETTING; FIVE MEN PER CREW. BOOM DERRICK, STEAM OR ELECTRIC POWER..

(9 Hours per day)

Wages combined per crew...	\$12.00	\$12.50	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00
Cost cubic foot (cts.).....	8 8-9	9 2-9	.09¾	.10	.10½	10 7-9	11 1-9

Continued on page 232.

Wages combined per crew....	\$15.50	\$16.00	\$16.50	\$117.00	\$17.50	\$18.00	\$18.50
Cost cubic foot (cts.).....	11 4-9	11 8-9	12 2-9	12 5-9	.13	.13½	.13¾
Wages combined per crew....	\$19.00	\$19.50	\$20.00	\$20.50	\$21.00	\$21.50	\$22.00
Cost cubic foot (cts.).....	14 2-27	14 4-9	14 7-9	15 5-27	15 5-9	15 8-9	.16¾
Wages combined per crew....	\$22.50	\$23.00	\$23.50	\$24.00	\$24.50	\$25.00	
Cost cubic foot (cts.).....	.16¾	.17	17 4-9	17 7-9	.18¾	18 5-9	

TABLE No. 46.

PLAIN HEAVY STONE SETTING; FIVE MEN PER CREW. BOOM, DERRICK, STEAM OR
ELECTRIC POWER.

(8 Hours per day.)							
Wages combined per crew....	\$12.00	\$12.50	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00
Cost cubic foot (cts.).....	.10	.10¾	10 5-6	.11¾	.11¾	12 1-12	.12¾
Wages combined per crew....	\$15.50	\$16.00	\$16.50	\$17.00	\$17.50	\$18.00	\$18.50
Cost cubic foot (cts.).....	.13	.13¾	.13¾	14 1-6	.14¾	.15	.15¾
Wages combined per crew....	\$19.00	\$19.50	\$20.00	\$20.50	\$21.00	\$22.50	\$23.00
Cost cubic foot (cts.).....	15 5-6	.16¾	.16¾	.17	.17¾	.18	18¾
Wages combined per crew....	\$23.50	\$24.00	\$24.50	\$24.00	\$24.50	\$25.00	
Cost cubic foot (cts.).....	.18¾	19 1-6	.19¾	.20	.20¾	20 5-6	

**ORNAMENTAL STONE SETTING; SMALL PIERS, PILASTERS, CIRCULAR ARCHES CORNICES
ETC., 5 MEN PER CREW; BOOM DERRICK, STEAM OR ELECTRIC POWER.**

(10 Hours per day.)									
Wages combined per crew...	\$12.00	\$12.50	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00		
Cost cubic foot (cts.).....	.10	10 5-12	10 5-6	.11½	.11¾	.12	.12½		
Wages combined per crew...	\$15.50	\$16.00	\$16.50	\$17.00	\$17.50	\$18.00	\$18.50		
Cost cubic foot (cts.).....	.13	.13¾	.13¾	14 1-6	14 7-12	.15	15 5-12		
Wages combined per crew...	\$19.00	\$19.50	\$20.00	\$20.50	\$21.00	\$21.50	\$22.00		
Cost cubic foot (cts.).....	15 5-6	.16¾	.16¾	.17	.17½	.18	.18½		
Wages combined per crew...	\$22.50	\$23.00	\$23.50	\$24.00	\$24.50	\$25.00			
Cost cubic foot (cts.).....	.18¾	19 1-6	19 7-12	.20	20 5-12	20 5-6			

TABLE No. 48

ORNAMENTAL STONE SETTING, 5 MEN PER CREW; BOOM DERRICK

(9 Hours per day.)									
Wages combined per crew...	\$12.00	\$12.50	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00		
Cost cubic foot (cts.).....	.11	.11½	.12	.12½	.13	.13½	.14		
Wages combined per crew...	\$15.50	\$16.00	\$16.50	\$17.00	\$17.50	\$18.00	\$18.50		
Cost cubic foot (cts.).....	.14½	.15	.15½	.16	.16½	.17	.17½		

Continued on page 234.

Wages combined per crew...	\$19.00	\$19.50	\$20.00	\$20.50	\$21.00	\$21.50	\$22.00
Cost cubic foot (cts.).....	.18	.18½	.19	.19½	.20	.20½	.21
Wages combined per crew...	\$22.50	\$23.00	\$23.50	\$24.00	\$24.50	\$25.00	
Cost cubic foot (cts.).....	.21½	.22	.22½	.23	.23½	.24	

TABLE No. 49.

ORNAMENTAL STONE SETTING, 5 MEN PER CREW: BOOM DERRICK.

Wages combined per crew...	\$12.00	\$12.50	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00
Cost cubic foot (cts.).....	.12½	.13	.13½	.14	.14½	.15	.15½
Wages combined per crew...	\$15.50	\$16.00	\$16.50	\$17.00	\$17.50	\$18.00	\$18.50
Cost cubic foot (cts.).....	.16	.16½	.17	.17½	.18	.18½	.19
Wages combined per crew...	\$19.00	\$19.50	\$20.00	\$20.50	\$21.00	\$21.50	\$22.00
Cost cubic foot (cts.).....	.19½	.20	.20½	.21	.21½	.22	.22½
Wages combined per crew....	\$22.50	\$23.00	\$23.50	\$24.00	\$24.50	\$25.00	
Cost cubic foot (cts.).....	.23	.23½	.24	.24½	.25	.25½	

NOTE.—The foregoing prices on labor setting heavy stone does not include the pointing or cleaning of stone; it does not include the setting and taking down the derricks; it does not include material of any kind. The setting and taking down the boom derrick depends

We find Table No. 46, which shows at \$21.00 per day, cost per cubic foot equals 7,000 cubic feet equals \$1,225.00; 3,000 cubic feet ornamental work, at the same cost of wages per day. The Table No. 49, shows cost per cubic foot 21½ times 3,000 equals \$656.25 plus \$1,225.00 equals \$1,881.25 or 10,000 cubic feet into \$1,881.25 equals 18½ cents per cubic foot. Contractor's profit to be added.

TABLE No. 50.

POINTING AND CLEANING STONE WORK, LABOR AND MATERIAL

Conditions of work depends on prices. Tuck pointer, \$3.50 to \$6.00 per 10 hours; one mortar helper, \$1.50 to \$3.50. Cement, one part; sand, two parts:
(10 Hours per day).

Wages and mortar combined.	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25	\$6.50
Cost per square foot (cts.)...	27-9	.03	31-18	37-36	.03½	317-36	311-18
Cost per square yd. (cts.)...	.25	.27	.27½	.28¾	.30	.31¼	.32½
Wages and mortar combined.	\$6.75	\$7.00	\$7.50	\$8.00	\$8.50	\$9.00	\$9.50
Cost per square foot (cts.)...	.03¾	.03½	.04½	44-9	413-18	.05	55-18
Cost per square yd. (cts.)...	.33¾	.35	.37½	.40	.42½	.45	.47½

TABLE No. 51.

(9 Hours per day).

Wages and mortar combined .	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25	\$6.50
Cost per square foot (cts.)...	3 7-81	3 13-54	3 32-81	3 89-162	3 57-81	3 139-162	4 1-81
Cost per square yd. (cts.)....	27 63-81	.29½	30 45-81	31 153-162	33 27-81	34 117-162	36 1-9
Wages and mortar combined .	\$6.75	\$7.00	\$7.50	\$8.00	\$8.50	\$9.00	\$9.50
Cost per square foot (cts.)...	.04½	4 26-81	4 51-81	4 76-81	5 20-81	5 45-81	5 70-81
Cost per square yd. (cts.)....	.37½	[8-8-9	41 54-81	44 36-81	47 18-81	.50	52 63-81

TABLE No. 52.

(8 Hours per day).

Wages and mortar combined .	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25	\$6.50
Cost per square foot (cts.)...	3 17-36	3 93-144	3 59-72	3 143-144	.04½	4 49-144	4 37-72
Cost per square yd. (cts.)....	.31½	32 117-144	.34½	35 135-144	.37½	.38½	.40½
Wages and mortar combined .	\$6.75	\$7.00	\$7.50	\$8.00	\$8.50	\$9.00	\$9.50
Cost per square foot (cts.)...	4 99-144	4 31-36	5 5-24	5 5-9	5 65-72	.06½	6 43-72
Cost per square yd. (cts.)....	.42½	.43½	.46½	.50	.53½	.56½	.59½

NOTE.—When estimating on tuck pointing and cleaning stone work, allow about 75 cents to \$1.00 for the cost of mortar which is generally cement, of Portland one part and sand two parts. The cost of the mortar is very small per crew, which usually means one pointer to one-half labor to furnish the mortar. Whatever the combined wages may be for labor add \$1.00 or about extra to this, which will pay for the cement and

wages of pointer is \$5.25 per day and the mortar mixer is \$3.50 per hour, and one-half helper would be \$1.75 plus \$5.25 equals \$7.00 plus \$1.00 for Portland cement mortar would cost combined \$8.00. The Table No. 22, shows at \$8.00 to cost per square foot, 4 4-9 cents times 10,000 square feet equals \$444.44. These prices include work done from a swinging stage. If the work can be pointed handy from the ground, not requiring scaffolding, the work will cost about 1 cent per square foot less or 9 cents per yard.

COST OF SETTING STONE SILLS, WATER TABLES, WINDOW AND DOOR CAPS OR LINTLES, ETC.

This class of work often comes under the head of "Brick Work", because of so little required and it would not be profitable to have a stone setter waiting for brick masons to run up the wall to certain heights to set the stone. In other words, a majority of brick masons can set the above named work as readily as the stone setter. It is only a matter of form, having an understanding between the stone setters and brick masons not to interfere with each other's trades. It is usually agreed between these two branches of trades, where each has an organization, just what parts of stone a brick mason shall be allowed to set. If there are no unions, then it is left to the contractor or foreman who to employ setting stone. The writer believes when there are a large amount of ashlar and other stone, not connected entirely with brick work, a stone setter is most profitable. Most of stone setters can lay brick; the same may be said of the bricklayer setting stone, but in most cases, each mechanic is best at the trade he follows. In many cases this is because the workman is out of practice because of not working at it steadily. We will take window and door sills, which are generally set at various heights on brick walls. The door sills are usually set with the top level with finished floor. The window sills are set from two feet up to five feet above the finished floors. When the brick walls are built up right, the sills are ready to be set, which must be set without any delay, in order to allow the

carpenters to set the windows and door frames so the bricklayers can continue on these walls without racking back from the openings. In order to cause no delays, it is necessary to have the bricklayer set the stone. The contractor or foreman should see that all the stones are delivered at the work before you need it. To wait until you are ready for it, then order it, will cause much delay on the work. When the stone has been delivered, take the plans showing the number of sills, etc., needed, giving the dimensions, then check the material; this will show if any of the stone is missing. If there is a shortage, immediately notify the firm of the shortage. One great success in the contracting business is to supply plenty of material at the work and allow no shortage and your mechanics will have no excuse to wait. To lay off your mechanics because of no material discourages them, disorganizes your crew and must say often causes men to dissipate and when you need them, they are not to be had or they are not in condition to give you a fair day's work.

SETTING SMALL STONE 3Y HAND

Approximate Cost to Set Stone That Can Readily be Handled by Two Men, No Derrick

Door sills set in place per lineal foot 10 to 15 cents or 40 to 60 cents per ordinary sized sills.

Window sills set in place per lineal foot 6 to 8 cents or 25 to 35 cents per ordinary sized sills.

Caps over doors and windows per lineal foot 15 to 20 cents or 60 to 80 cents per ordinary sized caps.

Water table or base per lineal foot 8 to 12 cents, one setter one or two helpers, 1 cubic foot per length in average.

Ashlar or range fencing square foot, 15 to 20 cents, including the pointing of Portland cement.

The above ashlar or range work does not include any cutting; the same applies to the other named work. This work is ordinarily used on small buildings such as residences or similar. The sills are 5 or 7½ by 10 or 14 inches, the door sills 7 to 9 by 11 to 16 inches, caps 4½ to 9 by 10 to 12½ inches, ashlar 2 to 3 feet by 9 to 15 inches in height and varies in thickness from 4 to 9 inches. This stone is generally backed up with brick or stone rubble. If the cut stone is backed up with masonry laid in cement (note), the stone should have a coat

in laying up the walls. If the backing of ashlar be of brick, the 4 inches joining the stone may be laid in the non-staining cement and the balance of inner walls may be laid in the ordinary brand of cement used for the work. To plaster the back of all cut stone with a non-staining cement helps greatly. Bedford or other lime stones are mostly affected by cement stains; granite it does not affect. Very often we see a large amount of fine cut stone in buildings all discolored. It is wondered by many why the stone is so dark and streaked; they perhaps do not know that it was stained by the use of cement in the rear parts of walls and worked its way in the pores of the stone. There are several brands of cement which are non-staining; see your dealers to get same. It will cost more per barrel than the ordinary Portland cement, but the difference in cost per barrel and the surface or square feet one barrel will cover, will not be expensive at the end. In some cases, the architects or superintendents allow the masonry as above mentioned to be laid up in lime mortar, but on large structures, when all masonry, is laid up in cement and sand is not allowed.

STONE WORK

APPROXIMATE PRICES OF VARIOUS LIMESTONE, F. O. B. CARS AT QUARRIES

Dimension Stone Drilled to Given Size, Loaded on Cars at Quarry

WATER TABLE IN THE ROUGH

Water table 11 and 12 inches thick, per lineal foot.....	35 to 40 cents
Water table 9 and 10 inches thick, per lineal foot.....	30 to 35 cents
Water table 7 and 8 inches thick, per lineal foot.....	28 to 33 cents
Water courses 6 and 7 inches thick, per lineal foot.....	25 to 30 cents
Belt courses caps and sills, per lineal foot.....	25 to 30 cents

DIMENSION STONE IN LARGE PIECES LOADED ON CARS AT QUARRY

12 Inches thick and over to given size, per cubic foot.....	35 to 40 cents
11 and 12 Inches thick and over to given size, per superficial foot.....	30 to 35 cents
9 and 10 Inches thick and over to given size, per superficial foot.....	27 to 32 cents
7 and 8 Inches thick and over to given size, per superficial foot.....	25 to 30 cents
6 Inches thick to given size, per superficial foot.....	20 to 25 cents
5 Inches thick to given size, per superficial foot.....	18 to 23 cents
4 Inches thick to given size, per superficial foot.....	12 to 17 cents
3 Inches thick to given size, per superficial foot.....	10 to 15 cents

ASHLAR ALL LENGTHS LOADED ON CARS AT QUARRY

11 and 12 Inches thick, per lineal foot.....	25 to 30 cents
9 and 10 Inches thick, per lineal foot.....	20 to 25 cents
7 and 8 Inches thick, per lineal foot.....	17 to 22 cents

FLAGGING CUT READY TO LAY, LOADED ON CARS AT QUARRY

7 and 8 Inches thick, per superficial foot.....	35 to 40 cents
6 Inches thick, per superficial foot.....	30 to 35 cents
5 Inches thick, per superficial foot.....	22 to 27 cents
4 Inches thick, per superficial foot.....	17 to 22 cents
3 Inches thick, per superficial foot.....	14 to 19 cents

Window caps and sills, per lineal foot.....	50 to 55 cents
Window caps and sills over 1 foot wide, per superficial foot.....	50 to 55 cents
Water table 11 and 12 inches, per lineal foot.....	95 to 105 cents
Water table 9 and 10 inches, per lineal foot.....	75 to 80 cents
Water table 7 and 8 inches, per lineal foot.....	60 to 65 cents
Door sills, platforms and steps, per superficial foot.....	60 to 65 cents
Frieze course, per superficial foot.....	60 to 65 cents
Ashlar, per superficial foot.....	50 to 60 cents
Bases, per superficial foot.....	70 to 80 cents

NOTE.—These prices are given as approximate. The conditions depend on class of stone, competition, etc., the same as in other lines of business. If there are a number of stone dealers who are in a position to furnish you stone, no doubt the difference in cost will vary considerably, especially on large contracts. The freight, etc., are to be added to the foregoing prices of stone.

CUT STONE WORK.

The writer will not attempt to give prices of labor for cutting stone as it would no doubt be misleading. There are no regular, general rules for measuring and pricing cut stone work. Throughout the country many dealers have bills of prices, but they are only local and apply only to the immediate vicinity where the stone is quarried or cut. When you have a building to erect requiring a large amount of cut stone, get prices from the cut stone dealers, furnish them with plans showing the stone work and specifications if so needed, and they will give you prices for the work delivered.

STONE WORKER'S MEMORANDA

- Perch of stone, 16 feet 6 inches long, 12 inches high and 18 inches thick equals $24\frac{3}{4}$ feet cubic measure.
- Perch of stone or 25 cubic feet are frequently agreed on for the convenience of measurement.
- Perch of stone in some parts of the United States is allowed only $16\frac{1}{2}$ cubic feet.
- Perch of stone in some parts of the United States is allowed only 22 cubic feet.
- Perch of stone in the wall, net measurement, is that where all through the walls are deducted.
- Perch of stone in the wall, gross measurement, is that where no openings under 1 perch are deducted.
- Perch of stone. When purchasing have understanding with dealer, how many feet is allowed.
- Perch of stone. One mason and helper will lay in 10 hours, 110 cubic feet or 4 2-5 perches, 16 and 18 inch walls.
- Perch of stone. One mason and helper will lay in 9 hours, 100 cubic feet or 4 perches, 16 and 18 inch walls.
- Perch of stone. One mason and helper will lay in 8 hours, 88 cubic feet or 3 13-25 perches, 16 and 18 inch walls.
- Perch of stone. One mason and helper will lay in 10 hours, 130 cubic feet or 5 1-5 perches, 22 and 24 inch walls.
- Perch of stone. One mason and helper will lay in 9 hours, 118 cubic feet or 4 18-25 perches, 22 and 24 inch walls.
- Perch of stone. One mason and helper will lay in 8 hours, 104 cubic feet or 4 4-25 perches, 22 and 24 inch walls.
- Perch of stone. When estimating take feet in place of perch on account of variation of feet to perch.
- Perch of stone at 25 cubic feet equals $\frac{1}{4}$ of a cord.

Continued on page 243.

Perch of stone at 25 cubic feet requires about 3 perches of sand.

Perch of stone at 25 cubic feet requires about $\frac{3}{4}$ cubic yard of sand to lay 1 perch.

Perch of stone at 25 cubic feet requires when laid in Portland cement and sand, $\frac{3}{8}$ barrel.

Cord of stone built in the wall equals 100 cubic feet.

Cord of stone built in the wall equals 4 perches when 25 cubic feet is allowed 1 perch.

Cord of wood is 4x4x8 equals 128 cubic feet. In some states you receive in the rough stone, 128 cubic feet for 100 feet.

Cord of stone or 100 cubic feet requires about 3 bushels of lime.

Cord of stone or 100 cubic feet requires about $\frac{3}{4}$ to 1 cubic yard of sand.

Cord of stone or 100 cubic feet requires about $1\frac{1}{2}$ to $1\frac{1}{2}$ barrels of Portland cement.

Cord of stone or 100 cubic feet, one mason and helper will lay in 8 hours on 22 and 24 inch walls, 1 to $1\frac{1}{4}$ cords.

Cubic foot contains 1,728 cubic inches and 27 cubic feet, 1 cubic yard.

Cubic foot of solid rock weighs on average 165 pounds.

Cubic feet stone. One mason and helper will lay of rubble walls in 10 hours, 16 and 18 inches thick, about 110 cubic feet.

Cubic feet stone. One mason and helper will lay of rubble walls in 9 hours, 16 and 18 inch walls, about 100 cubic feet.

Cubic feet stone. One mason and helper will lay of rubble walls in 8 hours, 16 and 18 inch walls, about 88 cubic feet.

Cubic feet stone. One mason and helper will lay of rubble walls in 10 hours, 22 inches and over about 130 cubic feet.

Continued on page 244.

Cubic feet.	Cubic feet stone.	One mason and helper will lay of rubble walls in 9 hours, 22 inches and over, 118
Cubic feet.	Cubic feet stone.	One mason and helper will lay of rubble walls in 8 hours, 22 inches and over, 104
15 cubic feet per hour.	Cubic feet stone.	One mason and helper will lay of rubble walls, when good stone walls 2 feet and over,
	Cubic feet one setter, three helpers, engineer, boom derrick will set in 8 hours, 120 cubic feet plain ashlar or range.	
	Cubic feet one setter, three helpers, engineer, boom derrick will set in 8 hours, 96 cubic feet arches, piers, pilasters, etc.	
22	Square feet ashlar pointer and $\frac{1}{4}$ to 1 helper to make and furnish mortar will point and clean in 8 hours, 144 superficial feet.	
44	Square feet ashlar pointing above mentioned are for heavy ashlar or range pointed in cement and swing stage.	
	Square feet stone pointing, 83, Table Nos. 50, 51 and 52, for cost of labor and superficial foot.	
	Square feet or yards plastering exterior of rubble walls below grade, Tables No. 39, 40, 41, 42 and 43.	
	Cement. $1\frac{1}{2}$ to $1\frac{1}{4}$ barrels of cement will lay 100 cubic feet or 1 cord; depends on proportions.	
	Cement, Portland, weighs per barrel gross about.....	400 pounds
	Cement, Portland, weighs per barrel net cement, about.....	380 pounds
	Cement, Portland, barrel, including head, weighs, when empty, about.....	20 pounds

... sacks generally gives best results.
 Cement, Portland, ordered in cloth sacks. You are charged 8 or 10 cents in addition to cost of cement.
 Cement, Portland. Cloth sacks, when freight prepaid on their return to dealers, you are given 8 or 10 cents credit.

Cement, Portland, paper bags. There are no charges as they are worthless and not returned.
 Cement, Portland, 4 sacks or bags equals 1 barrel.

Cement, Portland, shipped in carload lots, when car capacity is 30,000 pounds, 75 barrels or 316 sacks per car.

Cement, Portland, shipped in carload lots, when car capacity is 80,000 pounds, 200 barrels or 800 sacks per car.

Cement, Portland. There are about $3\frac{1}{8}$ bushels per barrel.

Cement, Portland, barrels vary some in size owing to the weight of cement per cubic foot.

Cement, Portland, packed in barrels ranges 3 to $3\frac{1}{2}$ cubic feet.

Cement, Portland, measured loose in box, etc., will yield from barrels 4 to $4\frac{1}{4}$ cubic feet loose.

Cement, Portland (English), $3\frac{1}{8}$ to $3\frac{1}{2}$ cubic feet packed in barrels.

Cement, Portland, and other cements can be hauled by teams over roads 50 to 60 sacks.

Cement, Portland, and other cements hauled by team, wages \$5.00 per 10 hours; labor \$2.00 (1 mile), costs about 2 cents per sack.

Cement, Portland, wheeled in barrows, 2 sacks per load at 100 feet, 480 sacks per 8 hours.

Cement, Portland, and other cements should be deposited in good dry sheds with wood floors well above ground.

Cement, Portland, sacks should be well shaken when emptying and kept dry thereafter.

Continued on page 246.

Cement, Portland. The number of sacks used each day, report to foreman or material clerk; it is a good guide.

Cement, Portland, sacks keep well packed and deposited each day and return to dealers often keeping count of same.

Cement, Natural, what we term common or hydraulic, weighs about 265 pounds.

Cement, Natural, one barrel when packed holds about $3\frac{1}{2}$ cubic feet.

Cement, Natural, barrels, when empty, including head, weighs about 15 pounds.

Cement, Natural, in sacks usually holds $\frac{1}{2}$ barrel or 3 sacks, 1 barrel.

Cement, Natural. There are various brands, namely: Utica, Akron, Rosendale, Louisville, etc. Limes are mostly sold by the bushel or barrel of 220 pounds or about $2\frac{1}{2}$ bushels per barrel.

Limes sold per bushel weighs 75 to 80 pounds; some dealers claim 3 bushels per barrel.

Lime, 3 pecks, when slacked and mixed with sand will lay 1 perch or 25 cubic feet stone.

Lime, 3 bushels, when slacked and mixed with sand will lay 1 cord or 100 cubic feet stone.

Lime. Railroad cars haul as per capacity 750 to 1,000 bushels.

Lime. Railroad cars haul as per capacity 200 to 300 barrels.

Lime easily air slacks. Keep lime in air-tight sheds or large lime boxes; make it up as soon as possible.

Lime. One mortar maker will make up 27 bushels of lime and sand in 8 hours.

Lime. One mortar maker will make up $30\frac{3}{8}$ bushels of lime and sand in 9 hours.

Lime. One mortar maker will make up $33\frac{3}{4}$ bushel of lime and sand in 10 hours.

Mortar. Three bushels or 1 barrel of lime and 1 cubic yard of sand will lay 1 cord or 100 cubic feet of

stone

BRICK WORK

Is generally estimated by the one thousand (1000) brick, in some localities by the cubic yard, as different cities or manufacturers make different size Bricks. In reality, the products of no two brick yards are entirely alike in size or for that matter all bricks burned in the same kiln are not of the same size. The variations in the dimensions of brick by various manufacturers and the different degrees of intensity of their burning, renders a table of the exact dimension of different classes of bricks a'together impracticable. The necessity of acknowledging some standard for purposes of measurement and calculation is obvious.

The average standard size bricks are $2\frac{1}{4} \times 8\frac{1}{4} \times 4$ inches, which we believe will be a fair average throughout the United States, therefore speak of (4 inch wall) meaning the width of ($\frac{1}{2}$ brick). To speak of 8 or 9 inch walls, meaning the width of 1 brick or two 4 inch walls side by side. A 12 or 13 inch wall, meaning $1\frac{1}{2}$ brick or three thickness of 4 inch walls and continued on the same rules for wall thicker. If we speak of 21 or 22 inch walls, it means we have five times the 4 inch walls.

It is custom in some parts of the country to call a 4 inch wall, $4\frac{1}{2}$ inches; an 8 inch wall is called 9 inch wall; a 12 inch wall is called 13 inches, etc.

RULES FOR ESTIMATING BRICK WORK

To ascertain the number of brick (wall measure), take the length of wall and multiply the same by height, then multiply same by the superficial foot of $\frac{1}{2}$ brick or 4 inch wall by 7 brick because it is allowed that 7 brick is required to every superficial foot of a 4 inch wall. This is termed wall measure, which includes the mortar the bricks are laid in. For 8 or 9 inch walls or 1 brick thick, multiply by 14 brick, because it requires 14 brick to every superficial foot of 8 or 9 inch wall. For a 12 or 13 inch wall, multiply by 21 brick for every superficial foot of a 12 or 13 inch wall or we may say 21 brick to the cubic foot.

Add 7 bricks additional for each $\frac{1}{2}$ brick or 4 inches to thickness of walls.

ESTIMATING BRICK WORK (KILN COUNT)

Means the actual number of brick laid in a wall or as delivered by the manufacturer. This allows nothing for mortar, all openings are deducted, no corners or angles are counted double on account of extra labor building same; in fact, the contractor has no advantage in the overrun or gain of brick. This does not mean the contractor who estimates his brick work kiln count or actual brick, loses money or does not make as much on a piece of work as if built wall measure. The writer believes that estimating the work kiln count is the most practical and safe way to make a set profit; it requires more study and time in estimating than if figured wall measure. To say we have a building that measures 200,000 brick wall measure, all the corners double, the work has a large number of windows and doors varying in widths, heights and thickness of walls. These named items have been figured as a solid wall; in other words, you charge as if built solid. Your gain on material and labor on all openings, you gain on the overrun of brick and labor for all overrun of brick on solid walls.

BRICK WORK

To know the overrun of material on the openings, we would be required to estimate same. Seldom this is done by the contractor as he runs the chances and expects all the overrun of brick to pay for the cost of mortar. If the walls figure 200,000 brick (wall measure), the contractor will need only about 150,000 actual brick to build the wall, therefore, there is a gain of 50,000 brick. If the brick cost \$7.00 per thousand delivered, it would show \$350.00 gain on the brick. Now to lay 150,000 actual brick would require about 450 bushels of lime or about 3 bushels per thousand actual brick. We will say the lime cost delivered 30 cents per bushel; the lime would cost 450 times 30 equals \$135.00. The sand we will say costs \$1.50 per cubic yard delivered and it will require $\frac{1}{2}$ cubic yard per 1,000 actual brick or 93 $\frac{1}{2}$ cubic yards to lay 150,000 brick; we will say 94 times \$1.50 equals \$141.00 for sand. The total cost for the lime and sand would cost \$276.00,

tractor would have a clear gain on the openings; this would depend on the number of openings. The writer would require. If they were to be built of solid brick, there should also be the profit of labor added. The writer will say that contractors who estimate their brick work at wall measure, girthing then walls multiplied by the height, then the thickness, not giving any attention to openings, etc., seldom know just how much material is required of the various kinds to build his work. His item book shows nothing but the figures at wall measure added together showing the work measures so much wall measure and requires so many brick, at so much per thousand for labor, then the total cost for the work complete. He does not itemize the material or the labor, as he is expected to pay out for same, but simply figures the brick can be laid for so much above the price of brick per thousand delivered. We will say the brick cost \$8.00 per thousand delivered and the contractor thinks the labor cost for laying would be \$4.00 per thousand wall measure. He adds \$8.00 plus \$4.00 equals \$12.00 which he assumes it is worth per each thousand brick in the wall measure. He understands this \$12.00 pays for 1,000 brick, the labor and cost of lime and sand to lay 1,000 brick. This class of estimating brick work is as much as we hear of contractors estimating a whole building by the cubic foot. In fact there are books published which undertake to learn and give instructions how and what buildings cost per cubic foot. This may be done in cases where a certain building has been constructed and the cost of same has been known, but to estimate another building similar in appearance and design with altogether a different specification and more costly interior finish or trim, with changes here and there and in fact the buildings are nothing alike, still the contractor figures the one building will run in cost the same as the one he formerly built. I wish to state to my readers, never allow yourself to guess or estimate building work by the cubic foot. In other words guess at nothing. Estimate your work as near as possible, just as the mechanic places the work, keep an itemized list of all material and labor and if this be done and you have taken off proper quantities and priced your work correctly, there need be no fear of losing money on your work if properly handled. Two things we should bear in mind: First, is to figure your work correctly and pricing same.

Second, is to manage the work as it should be handled. If you depend on foreman to handle the work, employ the best, even though it cost you a few dollars more per week. The foreman who takes no interest in the work only to draw his salary, should not be employed to manage your work. Employ one who takes interest in the work as though it were his own work.

ESTIMATING BRICK WORK KILN COUNT OR ACTUAL.

We believe the only proper way which is easily learned by a little practice; it is more safe and fair to everybody concerned. It requires a little more time, but it will be well spent. Time should be allowed when taking off the measurements for any certain piece of work, time should be given in pricing up the work and time should be had to get the best prices for all material.

To estimate brick work by kiln count, measure all work as per dimensions given. Take each wall separately, the length by the height and the thickness of walls. This will give the number of brick, wall measure. When estimating the thickness, multiply the superficial feet by seven times for every 4-inch wall and add seven for every additional 4-inch thickness of wall (see Rules for Estimating Brick Work).

--- will not the number of brick wall measure, then take each opening, figure the width

all openings as though a wall, getting the total brick well measure in each opening adding them together; mark on your item book front wall or south or whatever the wall faces. After the walls have been figured on the work, then deduct all openings or the total brick figured from them this still leaves the solid walls as wall measure. Now to get the work into kiln count or about, we must consider the size of brick and the class of work. We will assume the brick to be about the average size throughout the country $2\frac{1}{4} \times 8\frac{1}{4} \times 4$ inches; the mortar is spread on the wall (not what we term buttered joints). If the joints are spread, we seldom find joints less than $\frac{1}{2}$ inch on an average; this includes the face wall and backing. We also have the end or cross joints which will average $\frac{3}{8}$ to $\frac{1}{2}$ inch. Now considering all the named conditions, the writer has found that 750 to 760 brick will lay up a brick wall measuring 1000 brick or 75,000 to 76,000 brick to a wall measuring 100,000 brick you will have only 75,000 to 76,000 brick to buy; your masons have 75,000 to 76,000 actual brick to lay. You will pay for 225 or 228 bushels of lime or about 75 barrels because it requires from $2\frac{1}{2}$ to 3 bushels of lime per 1,000 actual brick; this depends mostly on the quality of lime. Then you have the sand which requires about $\frac{3}{8}$ cubic yard to lay 1,000 actual brick; for 75,000 it will require about 47 cubic yards. If the mason's wages are \$5.00 per 8 hours and labor at \$3.00 and it requires one and one-fourth labor to each mason, the labor will cost \$3.75 plus \$5.00 equals \$8.75. Now we will say the walls are 13 inches, and 18 inches and a number of 9 inches in partitions. The masons will average on the work, 1,800 brick actual or kiln count and we pay \$8.75 for mason and help, this will make the cost of each thousand brick, \$4.86 1-9 times 75,000 equals \$364.58 $\frac{1}{3}$.

SCHEDULE FOR 100,000 BRICK WALL MEASURE

75,000 Common brick delivered at \$7.00 equals.....	\$ 525.00
225 Bushels of lime to lay 75,000 common brick at 25 cents equals.....	56.25
47 Cubic yards sand to lay 75,000 common brick at \$1.25 equals.....	58.75
75,000 Brick to lay at combined wages \$8.75, average \$18.00 cost per thousand, \$4.86 1-9 equals	364.58½
<hr/>	
This shows the cost per 1,000 wall measure \$10.04.....	\$1,004.58½
This shows the cost per 1,000 kiln count \$13.30, which is equivalent to 100,000 brick in the wall measure.	

25

In case a contract is taken for brick work by the thousand brick instead of a lump sum for the whole work as we term a lump bid, it should be thoroughly understood between the contracting parties whether the thousand brick was to be wall measure or kiln or actual brick. It is understood the cost of laying brick kiln count costs much more which will show in schedule, The cost is more because your masons lay 1,000 brick actual. When laying brick, wall measure, the mason only lays 750 to 775 brick and these bricks laid in a wall will measure 1,000 brick wall measure.

EXTERNAL WALL

If 16 inches thick or what is termed an 18-inch wall or less, girth building or wall add thickness of wall for each external angle.
When thicker, add to actual contents of each corner 1½ cubic feet for every foot in height, allowing for wall ends as for corners.

Round walls 16 or 18 inches thick or less for circular walls of radius, sufficiently large to obviate the necessity of using special moulded or cut brick, add one-fifth of length to girth of wall.
If cut or moulded circular work, charge special rate.

SPECIAL WORK—BEVELED CORNERS—FACE BRICK

For each corner of wall of more or less than 90 degrees, add 16 inches to length of girth.

PARTITIONS WALL MEASURE—EXTRA TIME OF LABOR

16 or 18 Inches thick or less, intersections of partition walls bonded together in any manner should be measured double.

When thicker, add $1\frac{1}{2}$ cubic feet to actual contents of every intersection for each foot in height. Partition walls connected with stone walls should be measured 1 foot into such wall.

CHIMNEY BREASTS AND PILASTERS—EXTRA TIME OF LABOR

Chimney breasts and pilasters—All flues and hollows in chimneys 4 feet and less in area, should be measured solid; when larger deduct one-half the contents of flue. For all chimney breasts and pilasters add eight inches to face of each corner and multiply breadth so obtained by width.

Detached chimneys in buildings and plain chimney tops should be measured solid and $\frac{1}{2}$ cubic foot added for each corner and every foot in length.

STACKS

Chimney stacks at special rates, when square, find cubic contents measuring hollow walls as solid and deducting flue. When round or octagon, take length of diameter for sides and measure as though it were square.

PIERS

Independent piers should be measured solid and $\frac{1}{2}$ cubic foot added for each corner and for every foot in length.

HOLLOW WALLS

Hollow walls should be measured as solid.

CORNICES AND BELT COURSES

If of running courses only, multiply length by height of greatest girt in and out, by the greatest projection.

If enriched by corbels, brackets and panels, multiply other dimensions as given by greatest girth length.

STOCK OR PRESSED FACE BRICK

Measure all exposed surfaces of brick by superficial foot (see General Rules).

TUCK POINTING AND CLEANING OF BRICK WALLS

Should be measured by superficial foot of exposed surface.

APPROXIMATE SIZES OF FACE BRICK (ENAMELED)

American size same as standard	2 $\frac{1}{8}$ x 8 $\frac{1}{4}$ x 4	inches
English size	3 x 9 x 4 $\frac{1}{2}$	inches
Roman size	1 $\frac{1}{8}$ x 11 $\frac{1}{8}$ x 4	inches
Norman size	2 $\frac{1}{4}$ x 11 $\frac{7}{8}$ x 4	inches
and brick size	2 $\frac{1}{8}$ x 8 $\frac{1}{4}$ x 2	inches

Stretcher means brick enameled one side or face only.
 Double stretcher means brick enameled two sides or faces only.
 Quoin means brick enameled on one stretcher face and one end.
 Return means brick enameled on one stretcher face and both ends.
 Header means brick enameled on one end only.
 Double Header means brick enameled on both ends only.
 Bull Nose means round corner may be $1\frac{1}{2}$, 2, 3 or $4\frac{1}{4}$ inches radius.
 Bull Nose Stretchers means a round edge brick radius $1\frac{1}{2}$, 2, 3 or $4\frac{1}{4}$ inches.
 Octagon brick—The ends are made to turn corners, etc., to angle of 45 degrees.
 On the Flat means brick enameled on its largest surface.
 Overdipped means that to provide for a brick that is to be projected from face of wall enameled by front face.

NOTE.—These bricks can be had from various manufacturers throughout the United States. The sizes given are about the average sizes, which are enameled and made in red, grey, white, blue, etc. The brick can also be had in the sizes given without the enamel. They are made in many shades, red, grey, buff, cream, brown, etc. The last named are what we term face brick, stock or pressed.

ROMAN FACED BRICKS

which are made $1\frac{1}{8}$ inches thick, $11\frac{1}{8}$ inches in length and 4 inches in width are figured at the same number of brick per superficial foot as the standard sizes of $2\frac{3}{8} \times 8\frac{1}{4} \times 4$ inches. Although the wastage of Roman bricks are much greater because of cutting, the brick to half bond as the Roman bricks are only 4 inches in bricks or the Header on corners or jambs shows only 4 inches and to lay a full stretcher from the corner brick bricks with

PIERS

Independent piers should be measured solid and $\frac{1}{2}$ cubic foot added for each corner and for every foot in length.

HOLLOW WALLS

Hollow walls should be measured as solid.

CORNICES AND BELT COURSES

If of running courses only, multiply length by height of greatest girt in and out, by the greatest projection.

If enriched by corbels, brackets and panels, multiply other dimensions as given by greatest girth length.

254

STOCK OR PRESSED FACE BRICK

Measure all exposed surfaces of brick by superficial foot (see General Rules).

TUCK POINTING AND CLEANING OF BRICK WALLS

Should be measured by superficial foot of exposed surface.

APPROXIMATE SIZES OF FACE BRICK (ENAMELED)

American size same as standard.....	$2\frac{3}{8}$ x	$8\frac{1}{4}$ x4	inches
English size.....	3	x 9	$x4\frac{1}{2}$ inches
Roman size.....	$1\frac{5}{8}$ x	$11\frac{5}{8}$ x4	inches
Norman size.....	$2\frac{1}{4}$ x	$11\frac{1}{8}$ x4	inches
Soap brick size.....	$2\frac{3}{8}$ x	$8\frac{1}{4}$ x2	inches

DEFINITION OF SPECIAL TERMS OF ENAMELED BRICK

Stretcher means brick enameled one side or face only.

Double stretcher means brick enameled two sides or faces only.

Quoin means brick enameled on one stretcher face and one end.

Return means brick enameled on one stretcher face and both ends.

Header means brick enameled on one end only.

Double Header means brick enameled on both ends only.

Bull Nose means round corner may be $1\frac{1}{2}$, 2, 3 or $4\frac{1}{4}$ inches radius.

Bull Nose Stretchers means a round edge brick radius $1\frac{1}{2}$, 2, 3 or $4\frac{1}{4}$ inches.

Octagon brick—The ends are made to turn corners, etc., to angle of 45 degrees.

On the Flat means brick enameled on its largest surface.

Overdipped means that to provide for a brick that is to be projected from face of wall enameled by front face.

NOTE.—These bricks can be had from various manufacturers throughout the United States. The sizes given are about the average sizes, which are enameled and made in red, grey, white, blue, etc. The brick can also be had in the sizes given without the enamel. They are made in many shades, red, grey, buff, cream, brown, etc. The last named are what we term face brick, stock or pressed.

ROMAN FACED BRICKS

Which are made $1\frac{1}{8}$ inches thick, $11\frac{5}{8}$ inches in length and 4 inches in width are figured at the same number of brick per superficial foot as the standard sizes of $2\frac{3}{8}\times8\frac{1}{4}\times4$ inches. Although the wastage of Roman bricks are much greater because of cutting, the brick to half bond as the Roman bricks are only 4 inches in width or the Header on corners or jambs shows only 4 inches and to lay a full stretcher from the corner brick

measuring $11\frac{1}{8}$ inches with joint to be added which would total for Header and one stretcher about $15\frac{1}{2}$ inches allowing one cross joint of $\frac{3}{8}$ inch. To lay the next corner brick immediately above requires a stretcher, which from the corner would reach only $11\frac{1}{8}$ inches to reach half bond with the lower stretchers, would require every corner brick to be cut to 10 inches in length, thus throwing each course half bond. This will make a wastage of $1\frac{1}{2}$ inches in length to each brick or course on corners, besides all window and door jambs, etc., as the jambs will require more or less cutting on account of size of piers. If the jambs or reveal are 8 or 9 inches from face of wall to window or door frames, this will require every other course to be cut one course or every other course may take one-half brick next to frame.

Some architects in specifying Roman Brick, allows the brick to run in bond as they are made. In other words, not to half bond, even though it be allowed; there is more or less cutting and wastage of brick.

Owing to the foregoing conditions, it costs considerable more to lay these bricks per thousand; \$1.50 to \$2.50 per thousand is a fair average. The writer has had charge of work of this kind and finds that five per cent more brick than the actual, or in other words, there were 50 brick in every thousand delivered that was a clear loss, either being damaged by handling or otherwise. Often the contractor stands greater loss than above mentioned on defaced brick.

PURCHASING BRICK

In purchasing brick, common or face, the cheapest per thousand is not always the most profitable to the purchaser. The size of brick is very essential and should be considered. It must be understood the larger the brick the less it takes to lay up a wall; large bricks not only gain in measurement, but are a great gain in the labor laying them; also saving in mortar. The length and thickness of brick has mostly all to do with the gain. The width of a brick has very little to do toward gain unless it be in mortar, which generally costs much less per cubic foot than the brick

For comparison: Say we have purchased from one company a few thousand brick; the sizes are $2\frac{1}{4} \times$

quires as per mentioned joints just 200 bricks in length and 50 courses in height and to be 13 inches in thickness, 200 times 50 times 3 equals 30,000 actual or kiln count at \$7.00 per thousand delivered.

Now we have a duplicate wall to build which, if we purchased brick from the same company, would require 30,000 brick, but we buy from another company and pay them \$7.00. These bricks measure $2\frac{3}{8} \times 8\frac{1}{2} \times 4$ inches. Now it took just 200 bricks in length to lay the first wall, the last bricks are just $\frac{1}{4}$ inch longer, therefore, we gain 200 times $\frac{1}{4}$ equals 50 inches or about six bricks per course or 18 bricks per 13-inch wall. Now it required 50 courses in height in first wall, but the last bricks we purchased are $\frac{1}{8}$ inch thicker, 50 times $\frac{1}{8}$ equals $6\frac{1}{4}$ inches in height, which practically saves $2\frac{1}{4}$ courses in height. This would require the last wall 194 bricks in length and $47\frac{3}{4}$ in height. 194 times $47\frac{3}{4}$ times 3 equals 27,690 $\frac{1}{2}$ bricks, again of 2,310 bricks at \$7.00 equals \$16.17 or 53 9-10 cents per thousand bricks.

MASONRY IN FREEZING WEATHER

Brick and stone work built during the winter months does not give the best results as there is much risk in using mortars during freezing weather. If the cold weather should continue long enough to allow the frozen mortar to set well, the work may remain safe, but if a warm day should occur between the freezing and setting of mortar, the sun shining on one side of the wall thawing out the joints, while that on the other side may remain frozen hard. In that condition, the thawed mortar becomes weak, losing all its strength, therefore, the walls become weak and may fall. If the walls stand, they will no doubt be out of plumb; then mortar that has partially set while frozen, if when thawed, will never regain its strength. Cement mortar will stand more freezing or changeable weather.

MORTAR MAKING

We consider the making of mortar very important. We are fully aware that the majority of laborers, who represent themselves as mortar makers, know very little about making good mortar. They know that it takes lime, sand and water, but know very little about proportioning the mixture. The first thing they begin to throw lime into a box or sand ring used in slacking lime for common mortar. They pay very little attention to size of mortar box or the size of sand ring they have made from sand as to what amount of mortar it will hold when made or how much lime should be in the bed to take the sand. If they get too much lime in the box or ring and the water is hosed to it, when thoroughly slacked, they have not the room to mix the proper amount of sand, consequently, the mortar is too rich, but it is generally thrown out in the mortar pile with the balance of mortar. The next batch will most likely be the reverse; it will be mostly sand and too poor to use, consequently, the whole pile of lime has been slacked with the sand mixed with it and perhaps no two batches made alike, as the mortar is supposed to be ready for the brick laying by the retempering with a hoe adding enough water to same, making it soft enough to spread freely on the wall. The mortar then is carried, or wheeled in barrows to the mason and loaded on the mortar boards ready for to be used. The masons then start their work. The first thing they discover the mortar is too poor or needs more sand or it needs more tempering before they are able to lay the brick properly. It is proper to have a number of water buckets on the building, one to each mason, filled with water, but this is seldom done. Through negligence, the contractor seldom has enough of buckets on the work. If he does, the laborers fail to have water in them as they should, therefore, the masons are obliged to run from one place to another, in order to get a little water to temper his mortar fit to use. As the wages of masons runs on an average of more than double the tender's wages and the mortar can be conditioned as readily with common labor, it is plain to be seen that the contractor should employ enough common labor on his work to supply the material plentiful and in condition to be used by the masons. If the contractor expects to do good work and lots of it per mason, supply them with good and well tempered mortar.

SLACKING LIME

All the water required should be poured on at one time. If possible, the lime should be submerged so as to not allow the lime to burn. The box in which to slack the lime should be placed on a level foundation close to sand and lime as possible, have the water handy and plenty of it. After the lime has thoroughly slacked, then add the sand in proper proportions as the putty requires, then thoroughly mix the sand and putty in a uniform manner so as to not have it in spots of poor mortar, after which throw out the mortar where it is to be tempered ready for use. Hot mortar should never be used in warm weather, but should be used in cold or freezing weather. In receiving large quantities of lime at a time, such as carloads, there should be a place provided so as to work two or three crews of mortar makers at a time. If not, the lime will air slack before it can be made up. The lime house in which the lime is held, should be made as air tight as possible and well protected from rain or damp weather. One good mortar maker should make up in 10 hours, of good slacking lime, about 40 bushels lime.

He should make up in 9 hours, of good slacking lime, about 36 bushels lime.

He should make up in 8 hours, of good slacking lime, about 32 bushels lime.

The above named bushels of lime slacked per day, includes all the sand mixed properly in the lime putty all ready for to be used. It is figured the maker has the proper time to work his mortar thoroughly in the above mentioned bushels per day. A man to make more mortar per day than mentioned will be liable to turn out bad mortar, therefore, we believe 40, 36 and 32 bushels to be a good average. In the above quantities, it is understood all lime and sand are close to the maker, not to require a lot of extra labor moving the material. There are two kinds of lime usually used in mortar making: One is a white lime quick to slack and mostly used by plasterers. The other lime is a dark colored lime which is a slow slacking lime and is mostly used for stone or brick work. Use good lump lime for all masonry.

LAYING BRICK IN LIME MORTAR

We find there is no accurate average of brick for a bricklayer to lay per day, owing to the conditions and designs of the work which has much to do with the quantity of brick laid. The management is another important factor. As a rule, the good mechanics receive no more per day than a poor one; if so, it is only a few cents per hour. In most cities and towns of 10,000 or more population, masons have unions with a fixed scale of wages per hour. This scale is usually agreed upon between the local contractors and the mechanics; therefore, the contractors seldom give any higher rate per hour than the regular scale, although there are perhaps a number of mechanics in this organization who are worth 5 to 10 cents per hour more than ordinary members. We find in all organizations some very poor mechanics, while the majority are good. There are faults to be found with masons as in all other trades. The difference in mechanics runs about this way. The poor mechanic can not be depended on to do a good straight piece of work; he may be able to lay a great many brick to the line or filling in the rough wall. The fair mechanic is one who can lay lots of brick and do a fair piece of work if given plenty of time. The good mechanic is one who can work on any piece of work, do it good and lots of it. Some men could do better if they tried, while others try and cannot accomplish anything; some take interest in their work while others do not. The mason who has had years of practice is not always the best mechanic. The writer knows of masons working at their trade for years; who cannot do a fine piece of work, while others may be somewhat slow on account of age. When we speak of aged masons it is no sign they cannot lay lots of brick. I have worked many mechanics who were around the sixties and they laid as many brick per day as the younger men on the work. Owing to all these conditions, we will however give what we think is a fair average on various kinds of work.

WORK ON 8 OR 9 INCH WALLS, LIME MORTAR (8 HOURS PER DAY)

Ordinary 8 or 9 inch walls, a mason will lay 1,000 to 1,100 brick kiln count or actual or about 1,250 to 1,350 brick wall measure, which includes the mortar they are laid in, all openings deducted less the reveals. The walls are plain, but good workmanship.

LAYING BRICK 12 OR 13 INCH WALLS, LIME MORTAR (8 HOURS PER DAY)

A fair average on a 12 or 13 inch wall, with outer face of walls, troweled or struck joints, ordinary plain work, 1,300 to 1,400 brick kiln count or actual, or about 1,625 to 1,725 brick wall measure, which includes the mortar the bricks are laid in. Figuring 7 brick to each 4 inch superficial foot, all openings deducted less reveals.

LAYING BRICK 16 OR 18 INCH WALLS, LIME MORTAR (8 HOURS PER DAY)

A fair average on this size wall, with the outer face struck joints, ordinary work, masons will lay 1,600 to 1,700 brick kiln count or about 2,000 to 2,125 wall measure, including the mortar, all openings deducted.

NOTE.—These items of laying brick, we mention all openings deducted less the reveals. This does not mean opening in walls placed every three or four brick apart as we often find in buildings used for factories, etc. The averaged work given is on what we may term mostly solid walls. If the walls are constructed of a large number of piers from two to four brick, then a fair average on these parts of walls would be 1,000 of 1,200 brick actual, or 1,250 to 1,500 wall measure. This is where so many contractors fail to understand to 1, the work of laying the brick costs so much when the walls are thick. The large average is made on the why walls and as soon as the bricklayers have been placed on walls with a continuous row of openings with solid piers between, some places so small the mechanic can hardly reach between the frames to do his work, and the cost runs up by the much less average per mason. To be accurate on the cost of brick work, the

tractor should take off his items, keep each class of work separately, as though the masons were building it. If the foundation has heavy brick walls 13 inches or more with only a few openings here and there, then figure as per quantity given per thickness of walls. If above the basement the walls are mostly solid, figure the average per mason the same. If the walls are cut up by opening with small piers between, then make a separate item of this work as above given. By so doing, you will receive pay for the work as it is and be able to pay your labor for same. In case the walls are full of openings, it not only has small piers to build, but also requires arches or stone caps over same. If the arches are rowlocks which are brick rings laid on edge showing 4 inches in height, then the labor can be included as the pier work. If the openings are arched with jack arches, then figure a special price for each arch. If the openings have stone caps, which can readily be set with a few men, then figure same as rowlocks. This does not include the cost of stone. If the openings have iron lintles, figure the same as rowlocks. If the arches are bonded over 9 inches in height and ground or cut to the radius, charge special prices as per height and depth of soffit or reveals. The same applies to jack arches.

LAYING BRICK 21 OR 22 INCH WALLS

A fair average we find to be 1,750 to 1,850 brick kiln count or about 2,175 to 2,300 brick wall measure; openings deducted less reveals.

We find when walls are more than 22 inches in thickness, the average or gain in labor is very little more if any. The walls have began to get unhandy in reaching, especially when the walls are built over 4 feet in height for scaffolding which is mostly done. Five feet or about is the customary height for scaffolding. The unhandiness on thick walls are not the outer face only, but the filling of center parts as well. When the center walls are mentioned, it does not mean brick filled in any way, shape or form; some bricks are laid dry while others have 1 inch mortar. I have witnessed just this kind of work many times. The inner and outer 4 inches were ran with a line leaving the inner portion of wall down four or five courses deep, then the masons

would throw a few trowels of mortar in the wall, only partly spreading it, then began to fill in with brick. If the work is allowed in this manner, then the average given laying brick is too low. If the bricks are laid properly and the work is managed right, then we believe the average given in this book to be about right and the mechanics will have to keep on a good move all day to accomplish same. It is a common practice for mechanics to get together and talk about their work; they will tell about them laying 2,400 actual brick on 13-inch walls; another has laid 3,000 on the same size wall. One mason built two arches while the other masons could only get in one and at the same time I have worked a number of these fast fellows and found out it was all they could do to hold their own with the balance of mechanics. A great many contractors have made mistakes just in the same way. They figure too much on these so-called big day's work. If there is a lot of heavy work; also a lot of complicated work, he lumps it all together as one class of work and sets his price. We do not claim the successful contractor follows these ways, but we do claim there are many who do and are not successful.

LAYING UP BRICK PIERS, PILASTERS, ETC.

Two or three brick square lime mortar, four corners to plumb, a fair average per 8 hours, 1,000 brick kiln count or about 1,250 brick wall measure (see Rules for Measuring Piers).
If the piers are over 3 brick square, the average 1050 to 1100 brick kiln count or about 1300 to 1375 brick wall measure.

LAYING BRICK IN PORTLAND CEMENT MORTAR

When bricks are laid in Portland cement, it is generally intended for all the brick to be shoved joints *or gROUTED*. When the brick are to be shoved, the masons spreads the mortar, then he lays the brick by sliding them thoroughly through the mortar so each brick has been thoroughly imbedded in mortar *in showing* the ends and sides of the brick. The masons who are accustomed to this class of work usually works

There is a
 great deal of
 work to be
 done in the
 future and
 it is hoped
 that the
 work will
 be done in
 the future.

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**LAYING BRICK IN PORTLAND CEMENT AND PLASTER
A THOROUGH PRACTICE**

On plain 9-inch wall every joint well filled with mortar and no spaces left. On 1,250 brick wall measure, which includes the mortar they are laid, quantities deducted.

13-INCH WALL. LOADS 1,000 TO 1,500 lb. per sq. ft. (100 to 150 kN/m²).
Average 1,100 to 1,200 actual brick or 1,375 to 1,500 wall modulus, depending on stiffness (K) and height (H) of wall. (K = 100 to 1,000 kN/m³ and H = 10 to 100 ft.)

18-INCH WALLS LAID IN PATTERN

22 INCHES AND OVER IN THICKNESS

Average 1,300 to 1,400 actual brick or 1,625 to 1,750 wall measure, openings deducted (8 hours per day).

PIERS 2 TO 4 BRICK SQUARE LAID IN PORTLAND CEMENT AND SAND

Average 700 to 800 brick actual or 875 to 1,000 brick wall measure (8 hours per day).

NOTE.—The average given per each mason for 8 hours labor laying brick in Portland cement and sand is understood, when walls are mentioned, does not mean walls mostly composed of openings with small piers between. The average given is for plain walls with a few openings and with good working space between the openings. When the work requires a lot of piers, etc., keep this part separate in your item or note book. It costs you a greater amount per 1,000 brick, therefore, you should be paid accordingly. Another difficulty we usually have to bear on a number of openings with various sizes of piers that is to be able to so divide the work equally between the masons. This is sometimes impossible to do owing to the fact that the piers are not uniform in size or you have not the proper number of masons to place. As these conditions exist, means that while some of the masons have all they can do, others on smaller piers are not exerting themselves to keep up with the line and masons will seldom move from one place to another to help his fellowworkman but unless forced to do it. If one mason should get his course laid ahead of the others, he waits until all the piers have been laid to the line, as most union's rules forbid any mason laying brick head of the line. This is the case the average is hard to determine, but on ordinary work under these conditions, we have found being average per mason to be 800 to 900 brick actual or 1,000 to 1,125 brick wall measure.

LAYING FACE BRICK PER 8 HOURS—BUTTERED WORK

If the walls are plain with few corners or angles and good size piers between openings, say over four no arches to ground or cut to a radius, we will take as a fair average 400 to 450 actual brick or about 500 brick wall measure. If it be a long plain wall, practically solid or no openings, then a good face brick, 500

bricklayer should average about 500 to 550 actual brick or about 550 to 600 wall measure. There are bricklayers who will lay 600 to 700 brick on such walls, but the average mason will not do it, so the average is an average given for 8 hours work. All masons who lay brick are not good on face brick. This is because they never lay only common brick or if they do lay face brick, perhaps not steadily. Years ago there were masons who made a specialty of laying nothing but face brick. These men were called front lumpers. The contractor would employ masons by the hour to do all common work and would contract all the face work to the lumpers by the superficial foot or the job, which they furnished no helpers or built any scaffolding of any large amount. Their work was to furnish only the masons and lay all face brick. In late years this has been changed. The contractors now employ all the masons and generally has a few masons in the crew who can be placed on the face brick when needed and worked on other work as well. The great difficulty is to be able to employ enough of these mechanics when you happen to secure a contract which needs nearly all face bricklayers. The contractor then does the best he can by trying any and all of his masons. Some of the mechanics are fairly good, while the balance of the force are not profitable. The difficulty is that it takes them so long to lay a brick, when with others they can't lay the brick when given the time. There are many masons who cannot butter a brick, which means to place the mortar from the trowel to the brick to be laid instead of spreading the mortar on top of course of brick which has been laid. As stated before, the men have no practice, even though they were good and have not worked at it for some time. To be as good as the mason who works at it steady, he must be given the same chance at your expense until he gets his hand in good condition on the work instead of your pocket. The mechanic who cannot lay face brick does not indicate he is not a good mechanic on other brick work. In fact I have been acquainted with bricklayers who were considered the very best on face brick work and could not lay up a neat wall of common brick. These masons learned the trade from boyhood and started and completed their trade with front lumpers and had no experience in spreading mortar or laying common brick. It is the contractor's success to employ as many mechanics as possible who are able to work on any class of brick work; good mechanics cost no more than poor mechanics and even so they are the cheapest.

When work is done good, seldom you have trouble about poor workmanship. If your work is poorly built, you may look for complaints which may cause much work to be torn down and rebuilt satisfactory to those interested in the work. There are no profits in doing your work twice.

LAYING FACE BRICK ARCHES, BUTTERED JOINTS

If the arches are bonded, requiring each brick to be cut to a radius, we will say a fair average is 100 to 125 brick actual per day of 8 hours.

If the arches are plain with only a few brick to be cut, 200 to 225 actual brick per 8 hours. In building arches, circular or jack, the mechanic should use a radius line or rod fastened to the frame or opening at the proper strike of radius given. By so doing, it will guide each course in the arch. Your time will be well spent in getting it placed.

LAYING FACE BRICK PIERS, PILASTERS, ETC.

For plain work, no cutting, 4 to 6 brick in length, 300 to 350 actual brick or 330 to 385 wall measure.

For fancy work, some cutting, 4 to 6 brick in length, 250 to 300 actual brick or 275 to 330 wall measure.

For piers and pilasters, no cutting, 18 inches or less square, 200 to 225 actual brick or 220 to 247 wall measure.

For piers and pilasters, some cutting, 18 inches or less square, 175 to 200 actual brick or 192 to 220 wall measure.

NOTE.—When cutting is mentioned, it does not mean that one or two bricks are to be cut, but it includes piers and pilasters, which require two or four bricks at each course to be cut in order to hold to sizes required. Often bricks are longer than the architect allowed. You may be required to build piers the sizes required independent of length of brick because of cut stone or terra cotta caps, etc.

LAYING BRICK CORNICES

We find it very hard to average brick cornices as there are so many different designs. If the cornices are built mostly of plain or straight projections, then we may assume 275 to 325 actual brick, but if the cornice has a lot of dentals, etc., then 200 to 250 actual brick are a fair day's work of 8 hours. Some contractors figure double cost of labor on plain work for an ordinary cornice which has mostly projections of stretcher courses and for dental work, three times the amount of labor as for laying plain straight work.

CLEANING BRICK WALLS, ETC.

Cleaning brick work, figure by the superficial foot. One good laborer should clean 350 to 500 square feet per 8 hours. The cleaning depends on condition of walls and the care taken in cleaning same. If the walls are laid up with fine face brick and the work has been plastered all over the face by careless masons or laborers, then it requires much more labor to clean. If the face brick have been laid in cement mortar, it will require still more labor, as cement mortar is very hard to clean from the face of brick. By using muratic acid, lime mortar is easily cut, with cement it has very little effect. In using the acid, mix one pint to about one gallon of water, provided the walls are very dirty. It may require more or less acid which depends on conditions of walls. Use clean buckets and water. When the wash becomes very dirty, throw it out and make new. In washing the walls, regular whitewash brushes are usually used with a handle long enough to reach two or three feet above the head; large sponges are also used on work which can be reached handily. Use a good fibre or wire brush to clean the lumps or spots of lime before applying the wash. Care should be taken in protecting all stone work from the acids. If the walls require pointing, it should be done ahead to allow plenty of time for the mortar to set or become hard; if not, the acid wash will destroy all new pointing. If the brick has been laid up in colored mortar—red, brown, buff or black—great care should be taken not to use too much acid in the water. If the wash should be too strong, it will discolor or fade the mortar joints. This applies mostly to mortar made of lime; mortar made of Portland cement it will not affect, after the mortar has thoroughly set.

PROTECTING WORK FROM STAINS, BREAKS, ETC.

If there are cut stone, terra cotta, etc., have the carpenter to cover same with boards or cleats as needed; cover this work as soon as possible. To delay this work may cause much damage. If a piece of stone or terra cotta has been broken, it perhaps means to replace it with a new piece; whereby a little labor in protecting the work would save all trouble. If starting to lay brick on stone or terra cotta, base, water table or other similar work, lay long strips of building paper between the stone, etc., and the first joint of mortar. Allow the paper to build in the walls at least 2 inches and hang over the walls 12 to 18 inches; this protects the lower work from dirt and mortar stains. All doors and window frames should be protected by pieces of boards nailed to same; this applies mostly to door frames, where the mechanics and laborers are passing in and out with materials.

HOLLOW BRICK FURRING

Hollow brick or tile are used mostly to keep dampness from coming through the walls which are used on the inner walls. The hollow brick are usually made in size to conform with an ordinary size brick $2\frac{1}{4} \times 8 \frac{1}{4} \times 4$ inches or about. They are figured the same per superficial or cubic foot as common brick and can be laid as cheaply as any common brick on a line side and cost but little more, if any, than an ordinary brick, providing they are made in the same locality. If your common bricks are furnished from some nearby yards and the hollow bricks have to be shipped, then the cost per thousand actual may be considerably more. The majority of brickmakers do not manufacture them. It costs a little more to mold these bricks, but takes less fuel and burning and the freight is much less per thousand than ordinary common brick because of weight, as they are hollow on the inner body.

There is also a tile furring used in place of hollow bricks which are furnished from tile manufacturers, who make a specialty of fireproof materials, made of clay. This furring is made in various sizes, 2, 3 and 4 inches by 12 inches square, for a light furring. The book tile in use are generally made 2 or 3 inches in thickness with two faces with a creased partition in center. When using these tile, the mason divides the tile at

the crease or partition with a hammer or trowel, which breaks them uniform in two 12-inch pieces, thus giving 2 square feet. If not damaged, the tile are then laid to brick walls with the broken ribs next to walls leaving the straight face to receive the plastering. The tile is tied to the brick walls by the use of metal ties built in the brick work or they are tied by the use of heavy spikes driven in the walls as the tile are laid. The hollow space between the tile and brick walls should not be filled with mortar; the bed and cross joints are all that needs the mortar, the labor depends on conditions. If on long wall's and good size piers, one mason will lay 325 to 400 square feet per day of 8 hours. The materials are to be placed handily to the mason and kept in full supply.

BRICK WALL TIES OF VARIOUS MAKES AND SHAPES

Wall ties are used in place of brick headers, used for the binding of face of walls to the body or inner wall; they are made of various materials and shapes. The galvanized sheet metal anchor or ties are mostly used which are made from 1 to 2 inches in width and about 6 inches in length with each end turned or lapped to an angle of 45 per cent. There are also ties made of the same material and size with $\frac{1}{4}$ -inch holes punched at ends, which takes the mortar and form a key or tie. There are also ties made of heavy wire about the same length and have each end bent to a ring about $1\frac{1}{2}$ inch in diameter. These ties are usually built about five to seven courses in height and spaced about one brick apart which requires about 200 ties for every thousand face brick. It may not require the full 200 ties per thousand brick in the wall, but there are more or less these ties lost and scattered over the scaffolds and when needed they are not to be found.

BRICK HEADERS

A header is a brick laid with its longest dimension perpendicular to the face of the wall or in other words a brick laid lengthwise at right angles to the face of wall or the short face to the front.

The full header is a continuous row of bricks laid with its longest dimension perpendicular to the face of wall and used on common masonry or where the appearance is not objectionable. As to strength, this class of headers have no equal.

FLEMISH BOND HEADERS

Are a common used header mostly on face walls. The header courses are laid alternate of a header and stretcher. From a corner a $\frac{3}{4}$ brick in length is laid then the regular header, joining this a regular stretcher is laid, then a header and continued every other brick a stretcher or header.

If the work calls for a Flemish Bond Wall, it means that every course or brick in the wall is to be laid as a Flemish Bond header. This style of wall is more expensive in labor than any other Bond, as about one-third of the wall is built of headers which takes as long to lay one-half brick as a whole brick. In order to save the face brick, the masons pick bricks with two good ends and breaks it in half to get two headers. The walls are carried up this way until the regular header or tie is to be laid, then the inner or rough walls are built up to a level with the face work and a full header is used in place of one-half brick. This shows the same on face and also ties, the face brick to the backing. In laying up a Flemish Bond wall, great care should be taken in keeping a plumb bond; also in laying out the bond of courses. The course should be laid from one point if possible and continued until the same point has been met, not to allow any parts of walls to have two headers or stretchers together. This most likely would occur if the walls were started from various points. Very often the shade of bricks are different in order to carry out the effect of bond—the headers may be black when the stretchers are red or some other color. If the bricks are not uniform in color, then two stretchers or headers together would look much worse and spoil the appearance of the whole wall.

BRICK WORK

CLIP OR WHAT WE TERM A BLIND HEADER

This kind of a header is used mostly on fine face work. It is the old style of tying brick faces for which wall ties are mostly used at this time. When using blind headers, the masons cut the two corners off on the rough side or back of each face brick for header course. The rough walls are built up to the bottom of the rough course and then a common brick is laid at an angle into the parts of face brick lapping on the rough walls clip blinds them.

Are bricks laid on the wall edgewise, showing the brick about 4 inches up and down; when bricks are laid endwise, it is often termed "soldier work." If an arch is built of brick on end one brick in height turned on a segment or center, it is called a soldier arch. If the arches are built with one or more rings of brick edgewise, it is called Rowlock arches.

ROWLOCK COURSE

MORTAR COLORING

There are various brands and colors used in coloring mortar which are sold by the pound or barrel. Mortar coloring should never be mixed with hot mortar or fresh slacked lime unless in freezing weather. Hot mortar kills the strength of the coloring. When applying the coloring, use a measure or some gauge so as to have the proper proportions at each batch or mixture, then thoroughly mix with a mortar hoe until the mortar has become uniform in color. The mortar should be well covered from wind, sun or inclement weather.

APPROXIMATE WEIGHT OR NUMBER OF POUNDS PER BARREL

One barrel of red mortar coloring weighs.....	400 to 500 pounds
One barrel of brown mortar coloring weighs.....	400 to 450 pounds
One barrel of buff mortar coloring weighs.....	400 to 425 pounds
One barrel of black mortar coloring weighs.....	300 to 500 pounds

It generally requires 75 to 100 pounds of coloring to lay 1,000 brick when spread joints.

It generally requires 35 to 40 pounds of coloring to lay 1,000 face brick buttered joints.

These proportions or qualities given to lay one thousand brick depends on the coloring and how strong a shade is wanted.

LAYING BRICK IN HOT WEATHER

All common and face brick should be well watered during warm weather. Brick absorbs a great lot of heat during the summer months, as well frost and cold during cold weather. All common brick should be

thoroughly wet before they are laid, by using a water hose. Face brick should be watered after they have been delivered on the scaffolding by using buckets of water or barrels and dipping each brick enough to take heat from same. To wet the face brick too much makes the mortar too sloppy or soft to lay a neat wall. When bricks have been wet they lay much better and do better work; bricks when hot absorb all the moisture from the mortar and deaden it so the bricks are hard to lay. This applies to lime or cement mortar.

BRICK WORK

RECEIVING FACE AND COMMON BRICK

Before the bricks have began to be delivered, select the most suitable place for them, to be piled convenient to the work and as close as possible to save labor, yet not to obstruct any other branches of trade or hinder them from doing their work, because the bricks have been piled where some wall or approach has to be built. Have teamsters to pile or stack the bricks neatly so as not to damage them and not to take up any more space than possible. To throw or dump the bricks breaks them and takes up much more space, which you may not be entitled to. If the bricks are delivered by wagons from the manufacturer, you will probably be asked to sign a ticket for each load, giving the amount of brick per load. These tickets are a very good guide and should be furnished at each load. There should be a duplicate to each ticket, one for the purchaser and one signed to the teamster or manufacturer. When paying for the brick a bill is made out with signed tickets attached; there is no trouble or disputes. It is a good practice to check the bricks on a wagon occasionally, as very often the teamsters neglect to load the number of brick his ticket calls for. On large work signally, thousands of loads of brick, a few bricks short on each load would amount to considerable to the requiring. It is not done through the manufacturer for a gain, but through carelessness of the teamster, contract the loader at the kiln. There are many excuses from the teamster, when found his load is short of the number of brick called for; one is the loader told him he had 1,000 brick loaded when there were perhaps and the number 975 bricks in the load. The writer at one time had a teamster to confess that the reason he was short

was because the load of 1,000 bricks was too much for his team to haul and he figured every brick less meant five or six pounds. At the same time the manufacturer was billing the tickets as 1,000 per load and if we signed the ticket we were paying for 1,000 brick and not receiving them.

load In receiving face brick, tickets should be furnished with each load, giving the number of bricks the short contains. These bricks perhaps cost \$20.00 to \$25.00 per thousand or 2 or 2½ cents per brick. To be short ten to twenty bricks would mean to the contractor 25 to 50 cents which is a common occurrence; therefore, these bricks should be checked closely and at any time there is a shortage, so state on the signed ticket and mark same on ticket you hold, as the two tickets correspond. When unloading face brick at the works never allow the bricks to be piled on the ground. If so, the lower courses or rows next to the earth becomes dirty and discolored. Provide a plank floor with heavy sleepers to support same. The floor should be solid and as near level as possible; to build a weak floor and out of level often causes the pile of bricks to fall by the heavy load or by not having the floor level, thus causing the brick to tumble and damage many bricks. During cold and inclement weather, all brick should be covered well, either with boards or tarpaulins.

TOOLS, WHEELBARROWS, ROPES, ETC.

Provide a good box or shed with locks, etc., for all tools, ropes, bolts, nails etc. Take an invoice of all on hand and appoint one man on the works to see that all tools, etc., are gathered up each day and placed in the storage; every few weeks have someone to go over all tools and check up. All shovels, picks and wheelbarrows should be cleaned well after each day's work; tools scaled with dirt and rust never do the work of clean tools.

BRICK WORK

GAUGING OR SIZING FACE BRICK

It is often necessary to gauge face brick because of the unevenness in size. To build a fine wall, each brick to a course should be uniform in size. If not, the joints will show an unevenness or the variation in

sizes. When bricks require sizing, make several wood gauges, one to the exact size of small bricks and the other end of gauge to take the next sizes. Those bricks, too large to pass through either gauge, can be laid aside as large bricks. The other two piles of gauge brick would be small and medium and each pile kept separate. The hod carriers or tenders are to know each pile and deliver the size brick as ordered by the mason. It is best to start on the sizes most plentiful and then to the next largest pile. The small pile may have a very few bricks which can be used on some short wall or piers. If the masons are required to lay heavier joints to come to a certain height, then use the thick brick. If the walls are coming up too high requiring the masons to lay tight joints, then the thin bricks should be used; by getting the bricks mixed after they have been gauged causes the masons much trouble. The tenders should see that this does not occur. Scattered and reused bricks laying on the scaffolding should be gathered up by the tenders and placed where the masons can use them. If the bricks are so damaged that they cannot be used on the face of walls, see if they can be used in angles where the broken parts can be built in the walls 4 inches or there may be piers which require brick to be cut and the broken brick can be used to good advantage. If the bricks damaged cannot be used at the time, carry them to some good place and pile them away; there may be some other place for them to be used later on.

PROTECTING BRICK WORK AFTER WORKING HOURS

Before leaving the work at night, all brick work should be well covered with clean boards or heavy building paper, laid on top of walls and allowed to project over face of walls. This will protect the walls from building and snow. If scaffolding is built on the face side of walls, remove the inner foot plank next to walls rainy night. This protects the face work from rain and dirt beating against it; never cover walls with dirty scaffolding boards.

ARTICLE No. 1.

BRICK WORK

APPROXIMATE COST OF LABOR GAUGING BRICK, COMMON LABOR

Wages, labor 10 hours.....	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50
Cost per 1,000 brick (cts.)...	11 1-9	13 8-9	.16%	19 4-9	22 2-9	.25	27 7-9
Wages, labor 10 hours.....	\$2.75	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	
Cost per 1,000 brick (cts.)...	30 5-9	.33½	36 1-9	38 8-9	.41%	44 4-9	
Wages, labor 9 hours.....	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50
Cost per 1,000 brick (cts.)...	.12½	.15%	.18%	.21%	2.25	.28½	.31½
Wages, labor 9 hours.....	\$1.75	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	
Cost per 1,000 brick (cts.)...	.34%	.37½	.40%	.43%	.46%	.50	
Wages, labor 8 hours.....	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50
Cost per 1,000 brick (cts.)...	14 2-7	17 6-7	21 3-7	.25	28 4-7	32 1-7	35 5-7
Wages, labor 8 hours.....	\$2.75	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	
Cost per 1,000 brick (cts.)...	39 2-7	42 6-7	46 3-7	.50	53 4-7	51 1-7	

NOTE.—The foregoing prices given on gauging brick are figured on the man gauging brick only, placing the brick near his work and not carrying brick or doing odd jobs.

ARTICLE No. 2.

MORTAR MAKING AND COST OF LABOR (10 HOURS PER DAY)

Mortar maker's wages per 10 hours....	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50
Cost to make per bushel (cts.).....	.02½	.03½	.03½	.04½	.05	.05½	.06¼
Cost per barrel at 3 bushels (cts.).....	.07½	.09½	.10¼	.13½	.15	.16½	.18¾
Cost per 1,000 common brick (cts.)...	.07½	.09½	.10¼	.13½	.15	.16½	.18¾
Mortar maker's wages per 10 hours....	\$2.75	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	
Cost to make per bushel (cts.).....	.06¾	.07½	.08½	.08½	.9%	.10	
Cost per barrel at 3 bushels (cts.).....	.20¾	.22½	.24¾	.26¼	.28½	.30	
Cost per 1,000 common brick (cts.)...	.20¾	.22½	.24¾	.26¼	.28½	.30	

ARTICLE No. 3.

MORTAR MAKING AND COST OF LABOR (9 HOURS PER DAY)

Mortar maker's wages per 9 hours....	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50
Cost to make per bushel (cts.).....	2 7-9	3 17-36	.04½	4 31-36	5 5-9	.06¼	6 17-18
Cost per barrel at 3 bushels (cts.).....	.08½	10 5-12	.12½	14 7-12	.16%	.18%	20 5-6
Cost per 1,000 common brick (cts.)...	.08½	10 5-12	.12½	14 7-12	.16%	.18%	20 5-6
Mortar maker's wages per 9 hours....	\$2.75	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	
Cost to make per bushel (cts.).....	7 23-36	.08½	9 1-36	9 13-18	10 5-12	11 1-9	
Cost per barrel at 3 bushels (cts.).....	22 11-12	.25	27 1-12	.29½	.31¼	.33%	
Cost per 1,000 common brick (cts.)...	22 11-12	.25	27 1-12	.29½	.31¼	.33%	

ARTICLE No. 4.

MORTAR MAKING AND COST OF LABOR (8 HOURS PER DAY)									
Mortar									
Cost to maker's wages per 8 hours....	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50		
Cost to make per bushel (cts.).....	.03½	3 29-32	4 11-16	5 15-32	.06¼	7 1-32	7 13-16		
Cost per barrel at 3 bushels (cts.).....	.09½	11 23-32	.14½	16 13-32	.18¾	21 3-32	.23¾		
Cost per 1,000 common brick (cts.)...	.09½	11 23-32	.14½	16 13-32	.18¾	21 3-32	.23¾		
Mortar									
Cost to maker's wages per 8 hours....	\$2.75	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00			
Cost to make per bushel (cts.).....	8 19-32	.09¾	10 5-32	.10¾	11 23-32	.12½			
Cost per barrel at 3 bushels (cts.).....	25 25-32	.28½	30 15-32	.32¾	35 5-32	.37½			
Cost per 1000 common brick (cts.)...	25 25-32	.28½	30 15-32	.32¾	35 5-32	.37½			

NOTE.—The foregoing prices on mortar making includes the sand mixed with the lime, all ready to be used. The mortar should be made at the cost given; if not there is something wrong, either the material is unhandy or it is the fault of the mortar maker idling his time. We do not consider this a large day's work, but a fair average. This would require the maker to slack about 32 bushels of lime and mix with it 5½ to 6½ cubic yards of sand. This same maker should make enough mortar each day if supplied with material and kept steadily at his work to supply eight to ten masons on ordinary 13-inch walls.

ARTICLE No. 5.

LABOR COST LAYING ONE THOUSAND COMMON BRICK, 9-INCH WALLS, 8 HOURS PER DAY LIME MORTAR

Wages combined.....	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50
Cost per 1,000 kiln count.....	\$ 4.54	\$ 4.77	\$ 5.00	\$ 5.22	\$ 5.40	\$ 5.77	\$ 5.90
Cost per 1,000 wall measure.....	\$ 3.84	\$ 4.03	\$ 4.23	\$ 4.42	\$ 4.61	\$ 4.80	\$ 5.00

(Continued on page 279)

Wages combined.....	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25
Cost per 1,000 kiln count.....	\$ 6.13	\$ 6.36	\$ 6.59	\$ 6.89	\$ 7.04	\$ 7.27 ✓	\$ 7.50
Cost per 1,000 wall measure.....	\$ 5.19	\$ 5.38	\$ 5.57	\$ 5.76	\$ 5.96	\$ 6.15	\$ 6.34
Wages combined.....	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00
Cost per 1,000 kiln count.....	\$ 7.72	\$ 7.95	\$ 8.18	\$ 8.40	\$ 8.63	\$ 8.86	\$ 9.09
Cost per 1,000 wall measure.....	\$ 6.53	\$ 6.73	\$ 6.92	\$ 7.11	\$ 7.30	\$ 7.50	\$ 7.69
Wages combined.....	\$10.50	\$11.00	\$11.50	\$12.00			
Cost per 1,000 kiln count.....	\$ 9.54	\$10.00	\$10.45	\$10.90			
Cost per 1,000 wall measure.....	\$ 8.07	\$ 8.46	\$ 8.84	\$ 8.23			

ARTICLE No. 6.

LABOR COST LAYING ONE THOUSAND COMMON BRICK, 13-INCH WALLS, 8 HOURS PER DAY,
LIME MORTAR

Wages combined.....	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50
Cost per 1,000 kiln count.....	\$ 3.57	\$ 3.75	\$ 3.92	\$ 4.10	\$ 4.28	\$ 4.47	\$ 4.64
Cost per 1,000 wall measure.....	\$ 2.94	\$ 3.08	\$ 3.23	\$ 3.38	\$ 3.52	\$ 3.75	\$ 3.82
Wages combined.....	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25
Cost per 1,000 kiln count	\$ 4.82	\$ 5.00	\$ 5.18	\$ 5.35	\$ 5.53	\$ 5.71	\$ 5.89
Cost per 1,000 wall measure.....	\$ 3.97	\$ 4.11	\$ 4.26	\$ 4.41	\$ 4.55	\$ 4.70	\$ 4.85

(Continued on page 280)

Wages combined.....	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$ 10.00
Cost per 1,000 kiln count.....	\$ 6.07	\$ 6.25	\$ 6.42	\$ 6.60	\$ 6.78	\$ 6.96	\$ 7.14
Cost per 1,000 wall measure.....	\$ 5.00	\$ 5.14	\$ 5.29	\$ 5.44	\$ 5.58	\$ 5.73	\$ 5.88
Wages combined.....	\$10.50	\$11.00	\$11.50	\$12.00			
Cost per 1,000 kiln count.....	\$ 7.50	\$ 7.85	\$ 8.21	\$ 8.85			
Cost per 1,000 wall measure.....	\$ 6.17	\$ 6.47	\$ 6.76	\$ 7.05			

ARTICLE No. 7.

LABOR COST LAYING ONE THOUSAND COMMON BRICK, 18-INCH WALLS, 8 HOURS PER DAY LIME MORTAR

Wages combined.....	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50
Cost per 1,000 kiln count.....	\$ 2.94	\$ 3.08	\$ 3.23	\$ 3.38	\$ 3.52	\$ 3.67	\$ 3.82
Cost per 1,000 wall measure.....	\$ 2.38	\$ 2.50	\$ 2.61	\$ 2.73	\$ 2.85	\$ 2.97	\$ 3.09
Wages combined.....	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25
Cost per 1,000 kiln count.....	\$ 3.97	\$ 4.11	\$ 4.26	\$ 4.41	\$ 4.67	\$ 4.70	\$ 4.85
Cost per 1,000 wall measure.....	\$ 3.21	\$ 3.33	\$ 3.45	\$ 3.57	\$ 3.69	\$ 3.80	\$ 3.92
Wages combined.....	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$ 10.00
Cost per 1,000 kiln count.....	\$ 5.00	\$ 5.14	\$ 5.29	\$ 5.44	\$ 5.58	\$ 5.73	\$ 5.88
Cost per 1,000 wall measure.....	\$ 4.04	\$ 4.16	\$ 4.28	\$ 4.40	\$ 4.52	\$ 4.64	\$ 4.76
Wages combined.....	\$10.50	\$11.00	\$11.50	\$12.00			
Cost per 1,000 kiln count.....	\$ 6.17	\$ 6.47	\$ 6.76	\$ 7.05			
Cost per 1,000 wall measure.....	\$ 5.00	\$ 5.23	\$ 5.47	\$ 5.71			

ARTICLE No. 8

LABOR COST LAYING 1000 COMMON BRICK, 22-INCHES AND THICKER, 8 HOURS PER DAY.
LIME MORTAR

Wages combined.....	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50
Cost per 1000 kiln count.....	\$ 2.63	\$ 2.76	\$ 2.89	\$ 3.02	\$ 3.15	\$ 3.28	\$ 3.42
Cost per 1000 wall measure.....	\$ 2.17	\$ 2.28	\$ 2.39	\$ 2.50	\$ 2.60	\$ 2.71	\$ 2.82
Wages combined.....	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25
Cost per 1000 kiln count.....	\$ 3.55	\$ 3.68	\$ 3.81	\$ 3.94	\$ 4.07	\$ 4.21	\$ 4.34
Cost per 1000 wall measure.....	\$ 2.93	\$ 3.04	\$ 3.15	\$ 3.26	\$ 3.36	\$ 3.47	\$ 3.58
Wages combined.....	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00
Cost per 1000 kiln count.....	\$ 4.47	\$ 4.60	\$ 4.73	\$ 4.86	\$ 5.00	\$ 5.13	\$ 5.26
Cost per 1000 wall measure.....	\$ 3.69	\$ 3.80	\$ 3.91	\$ 4.02	\$ 4.13	\$ 4.23	\$ 4.34
Wages combined.....	\$10.50	\$11.00	\$11.50	\$12.00			
Cost per 1000 kiln count.....	\$ 5.52	\$ 5.78	\$ 6.05	\$ 6.31			
Cost per 1000 wall measure.....	\$ 4.56	\$ 4.78	\$ 5.00	\$ 5.21			

ARTICLE No. 9

LABOR COST LAYING COMMON BRICK, 9-INCH WALLS, 9 HOURS PER DAY; LIME MORTAR

Wages combined.....	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50
Cost per 1000 kiln count.....	\$ 4.16	\$ 4.37	\$ 4.58	\$ 4.79	\$ 5.00	\$ 5.20	\$ 5.41
Cost per 1000 wall measure.....	\$ 3.33	\$ 3.50	\$ 3.66	\$ 3.83	\$ 4.00	\$ 4.16	\$ 4.33

(Continued on page 282)

Wages Combined.....	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25
Cost Per 1000 kiln count.....	\$ 5.62	\$ 5.83	\$ 6.04	\$ 6.25	\$ 6.45	\$ 6.66	\$ 6.87
Cost Per 1000 wall measure.....	\$ 4.50	\$ 4.66	\$ 4.83	\$ 5.00	\$ 5.16	\$ 5.33	\$ 5.50
Wages Combined.....	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00
Cost Per 1000 kiln count.....	\$ 7.08	\$ 7.29	\$ 7.50	\$ 7.70	\$ 7.91	\$ 8.12	\$ 8.33
Cost Per 1000 wall measure.....	\$ 5.66	\$ 5.83	\$ 6.00	\$ 6.16	\$ 6.33	\$ 6.50	\$ 6.66
Wages Combined.....	\$10.50	\$11.00	\$11.50	\$12.00			
Cost per 1000 kiln count.....	\$ 8.75	\$ 9.16	\$ 9.58	\$10.00			
Cost per 1000 wall measure.....	\$ 7.00	\$ 7.33	\$ 7.66	\$ 8.00			

ARTICLE No. 10

LABOR COST LAYING COMMON BRICK, 13-INCH WALLS, 9 HOURS PER DAY; LIME MORTAR.

Wages combined.....	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50
Cost per 1000 kiln count.....	\$ 3.12	\$ 3.28	\$ 3.44	\$ 3.59	\$ 3.75	\$ 3.90	\$ 4.06
Cost per 1000 wall measure.....	\$ 2.50	\$ 2.62	\$ 2.75	\$ 2.87	\$ 3.00	\$ 3.12	\$ 3.20
Wages combined.....	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25
Cost per 1000 kiln count.....	\$ 4.21	\$ 4.37	\$ 4.53	\$ 4.68	\$ 4.84	\$ 5.00	\$ 5.15
Cost per 1000 wall measure.....	\$ 3.37	\$ 3.50	\$ 3.62	\$ 3.75	\$ 3.87	\$ 4.00	\$ 4.12

(Continued on page 273)

Wages combined.....	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00
Cost per 1000 kiln count.....	\$ 5.31	\$ 5.46	\$ 5.62	\$ 5.78	\$ 5.93	\$ 6.09	\$ 6.25
Cost per 1000 wall measure.....	\$ 4.25	\$ 4.37	\$ 4.50	\$ 4.62	\$ 4.75	\$ 4.87	\$ 5.00
Wages combined.....	\$10.50	\$11.00	\$11.50	\$12.00			
Cost per 1000 kiln count.....	\$ 6.56	\$ 6.87	\$ 7.18	\$ 7.50			
Cost per 1000 wall measure.....	\$ 5.25	\$ 5.50	\$ 5.75	\$ 6.00			

ARTICLE No. 11

LABOR COST LAYING COMMON BRICK, 18 INCH WALLS, 9 HOURS PER DAY; LIMIC MORTAR.

Wages combined.....	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50
Cost per 1000 kiln count.....	\$ 2.63	\$ 2.76	\$ 2.89	\$ 3.02	\$ 3.15	\$ 3.28	\$ 3.42
Cost per 1000 wall measure.....	\$ 2.08	\$ 2.18	\$ 2.29	\$ 2.39	\$ 2.50	\$ 2.60	\$ 2.70
Wages combined.....	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.40	\$ 7.75	\$ 8.00	\$ 8.25
Cost per 1000 kiln count.....	\$ 3.55	\$ 3.68	\$ 3.81	\$ 3.94	\$ 4.07	\$ 4.21	\$ 4.34
Cost per 1000 wall measure.....	\$ 2.81	\$ 2.91	\$ 3.02	\$ 3.12	\$ 3.22	\$ 3.33	\$ 3.43
Wages combined.....	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00
Cost per 1000 kiln count.....	\$ 4.47	\$ 4.60	\$ 4.73	\$ 4.86	\$ 5.00	\$ 5.15	\$ 5.26
Cost per 1000 wall measure.....	\$ 3.54	\$ 3.64	\$ 3.75	\$ 3.85	\$ 3.95	\$ 4.06	\$ 4.16
Cost per 1000 wall measure.....	\$10.50	\$110.0	\$11.50	\$12.00			
Wages combined.....	\$ 5.52	\$ 5.78	\$ 6.05	\$ 6.31			
Cost per 1000 wall measure.....	\$ 4.37	\$ 4.58	\$ 4.79	\$ 5.00			

ARTICLE No. 12

LABOR COST LAYING COMMON BRICK, 22-INCHES AND THICKER, 8 HOURS PER DAY; LIME MORTAR

Wages combined.....	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50
Cost per 1000 kiln count.....	\$ 2.38	\$ 2.50	\$ 2.61	\$ 2.73	\$ 2.85	\$ 2.97	\$ 3.09
Cost per 1000 wall measure.....	\$ 1.92	\$ 2.01	\$ 2.11	\$ 2.21	\$ 2.30	\$ 2.40	\$ 2.50
Wages combined.....	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25
Cost per 1000 kiln count.....	\$ 3.21	\$ 3.33	\$ 3.45	\$ 3.57	\$ 3.69	\$ 3.80	\$ 3.92
Cost per 1000 wall measure.....	\$ 2.59	\$ 2.69	\$ 2.78	\$ 2.88	\$ 2.98	\$ 3.07	\$ 3.17
Wages combined.....	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00
Cost per 1000 kiln count.....	\$ 4.04	\$ 4.16	\$ 4.28	\$ 4.40	\$ 4.52	\$ 4.64	\$ 4.76
Cost per 1000 wall measure.....	\$ 3.26	\$ 3.36	\$ 3.46	\$ 3.55	\$ 3.65	\$ 3.75	\$ 3.84
Wages combined.....	\$10.50	\$11.00	\$11.50	\$12.00			
Cost per 1000 kiln count.....	\$ 5.00	\$ 5.23	\$ 5.47	\$ 5.71			
Cost per 1000 wall measure.....	\$ 4.03	\$ 4.23	\$ 4.42	\$ 4.61			

ARTICLE No. 13

LABOR COST LAYING COMMON BRICK, 9-INCH WALLS, 10 HOURS PER DAY; LIME MORTAR.

Wages combined.....	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50
Cost per 1000 kiln count.....	\$ 3.57	\$ 3.75	\$ 3.92	\$ 4.10	\$ 4.28	\$ 4.47	\$ 4.64
Cost per 1000 wall measure.....	\$ 2.94	\$ 3.08	\$ 3.23	\$ 3.38	\$ 3.52	\$ 3.67	\$ 3.82

(Continued on page 285)

Wages combined.....	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25
Cost per 1000 kiln count.....	\$ 4.82	\$ 5.00	\$ 5.18	\$ 5.35	\$ 5.53	\$ 5.71	\$ 5.89
Cost per 1000 wall measure.....	\$ 3.97	\$ 4.11	\$ 4.26	\$ 4.41	\$ 4.67	\$ 4.70	\$ 4.85
Wages combined.....	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00
Cost per 1000 kiln count.....	\$ 6.07	\$ 6.25	\$ 6.42	\$ 6.60	\$ 6.78	\$ 6.93	\$ 7.14
Cost per 1000 wall measure.....	\$ 5.00	\$ 5.14	\$ 5.29	\$ 5.44	\$ 5.58	\$ 5.73	\$ 5.88
Wages combined.....	\$10.50	\$11.00	\$11.50	\$12.00			
Cost per 1000 kiln count.....	\$ 7.50	\$ 7.85	\$ 8.21	\$ 8.85			
Cost per 1000 wall measure.....	\$ 6.17	\$ 6.47	\$ 6.76	\$ 7.05			

ARTICLE No. 14

LABOR COST LAYING COMMON BRICK, 13-INCH WALLS, 10 HOURS PER DAY; LIME MORTAR.

Wages combined.....	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50
Cost per 1000 kiln count.....	\$ 2.94	\$ 3.08	\$ 3.23	\$ 3.38	\$ 3.52	\$ 3.67	\$ 3.82
Cost per 1000 wall measure.....	\$ 2.38	\$ 2.50	\$ 2.61	\$ 2.73	\$ 2.85	\$ 2.97	\$ 3.09
Wages combined.....	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25
Cost per 1000 kiln count.....	\$ 3.97	\$ 4.11	\$ 4.26	\$ 4.41	\$ 4.67	\$ 4.70	\$ 4.85
Cost per 1000 wall measure.....	\$ 3.21	\$ 3.33	\$ 3.45	\$ 3.57	\$ 3.69	\$ 3.80	\$ 3.92
Wages combined.....	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00
Cost per 1000 kiln count.....	\$ 5.00	\$ 5.14	\$ 5.29	\$ 5.44	\$ 5.58	\$ 5.73	\$ 5.88
Cost per 1000 wall measure.....	\$ 4.04	\$ 4.16	\$ 4.28	\$ 4.40	\$ 4.52	\$ 4.64	\$ 4.76

(Continued on page 286)

Wages combined.....	\$10.50	\$11.00	\$11.50	\$12.00
Cost per 1000 kiln count.....	\$ 6.17	\$ 6.47	\$ 6.76	\$ 7.05
Cost per 1000 wall measure.....	\$ 5.00	\$ 5.23	\$ 5.47	\$ 5.71

ARTICLE No. 15

LABOR COST LAYING COMMON BRICK, 18-INCH WALLS, 10 HOURS PER DAY, LIME MORTAR.

Wages combined.....	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50
Cost per 1000 kiln count.....	\$ 2.38	\$ 2.50	\$ 2.61	\$ 2.73	\$ 2.85	\$ 2.97	\$ 3.09
Cost per 1000 wall measure.....	\$ 1.92	\$ 2.01	\$ 2.11	\$ 2.21	\$ 2.30	\$ 2.40	\$ 2.50
Wages combined.....	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25
Cost per 1000 kiln count.....	\$ 3.21	\$ 3.33	\$ 3.45	\$ 3.57	\$ 3.69	\$ 3.80	\$ 3.92
Cost per 1000 wall measure.....	\$ 2.59	\$ 2.69	\$ 2.78	\$ 2.88	\$ 2.98	\$ 3.07	\$ 3.17
Wages combined.....	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00
Cost per 1000 kiln count.....	\$ 4.04	\$ 4.16	\$ 4.28	\$ 4.40	\$ 4.52	\$ 4.64	\$ 4.76
Cost per 1000 wall measure.....	\$ 3.26	\$ 3.36	\$ 3.46	\$ 3.55	\$ 3.65	\$ 3.75	\$ 3.84
Wages combined.....	\$10.50	\$11.00	\$11.50	\$12.00			
Cost per 1000 kiln count.....	\$ 5.00	\$ 5.23	\$ 5.47	\$ 5.71			
Cost per 1000 wall measure.....	\$ 4.03	\$ 4.23	\$ 4.42	\$ 4.61			

ARTICLE No. 16

LABOR COST LAYING COMMON BRICK, 22-INCHES OR THICKER, 10 HOURS PER DAY; LIME
MORTAR.

Wages combined.....	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50
Cost per 1000 kiln count.....	\$ 2.17	\$ 2.28	\$ 2.39	\$ 2.50	\$ 2.60	\$ 2.71	\$ 2.82
Cost per 1000 wall measure.....	\$ 1.78	\$ 1.87	\$ 1.96	\$ 2.05	\$ 2.14	\$ 2.23	\$ 2.32
Wages combined.....	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25
Cost per 1000 kiln count.....	\$ 2.93	\$ 3.04	\$ 3.15	\$ 3.26	\$ 3.33	\$ 3.47	\$ 3.58
Cost per 1000 wall measure.....	\$ 2.41	\$ 2.50	\$ 2.58	\$ 2.67	\$ 2.76	\$ 2.85	\$ 2.94
Wages combined.....	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00
Cost per 1000 kiln count.....	\$ 3.69	\$ 3.80	\$ 3.91	\$ 4.02	\$ 4.13	\$ 4.23	\$ 4.34
Cost per 1000 wall measure.....	\$ 3.03	\$ 3.12	\$ 3.21	\$ 3.30	\$ 3.39	\$ 3.48	\$ 3.57
Wages combined.....	\$10.50	\$11.00	\$11.50	\$12.00			
Cost per 1000 kiln count.....	\$ 4.56	\$ 4.78	\$ 5.00	\$ 5.21			
Cost per 1000 wall measure.....	\$ 3.75	\$ 3.92	\$ 4.10	\$ 4.28			

The foregoing cost of labor, to lay 1000 common brick, on various thicknesses of walls; brick layed in
lime mortar. The prices given are for ordinary plain straight work; the brick are to be well layed, but no
line of grouted joints. The inner and outer 4-inches laid to lime, and the filling to have good bed joints,
shove or side joints not to be filled by special pains. The line walls are figured on cross joints and struck
show end rowel. The masons are to be average hands, material to be well supplied, and all labor kept moving.

Wages combined.....	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25
Cost per 1000 kiln count.....	\$ 6.13	\$ 6.36	\$ 6.59	\$ 6.81	\$ 7.04	\$ 7.27	\$ 7.30
Cost per 1000 wall measure.....	\$ 5.19	\$ 5.38	\$ 5.57	\$ 5.76	\$ 5.96	\$ 6.15	\$ 6.34
Wages combined.....	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.30	\$ 9.75	\$10.00
Cost per 1000 kiln count.....	\$ 7.72	\$ 7.95	\$ 8.18	\$ 8.40	\$ 8.63	\$ 8.86	\$ 9.09
Cost per 1000 wall measure.....	\$ 6.53	\$ 6.73	\$ 6.92	\$ 7.11	\$ 7.30	\$ 7.50	\$ 7.69
Wages combined.....	\$10.50	\$11.00	\$11.50	\$12.00			
Cost per 1000 kiln count.....	\$ 9.54	\$10.00	\$10.45	\$10.90			
Cost per 1000 wall measure.....	\$ 8.07	\$ 8.46	\$ 8.84	\$ 8.23			
Joints struck on face of 13-inch walls							

ARTICLE No. 20

BRICK LAID IN PORTLAND CEMENT MORTAR; GROUTED OR SHOVED JOINTS LABOR COST LAYING 1000 HARD BRICK, 18-INCH WALLS; 8 HOURS PER DAY

Wages combined.....	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.75	\$ 60.0	\$ 6.25	\$ 6.50
Cost per 1000 kiln count.....	\$ 3.84	\$ 4.03	\$ 4.23	\$ 4.42	\$ 4.61	\$ 4.80	\$ 5.00
Cost per 1000 wall measure.....	\$ 3.12	\$ 3.28	\$ 3.44	\$ 3.59	\$ 3.75	\$ 3.90	\$ 4.06

(Continued on page 290)

Wages combined.....	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25
Cost per 1000 kiln count.....	\$ 5.19	\$ 5.38	\$ 5.57	\$ 5.76	\$ 5.96	\$ 6.15	\$ 6.34
Cost per 1000 wall measure.....	\$ 4.21	\$ 4.37	\$ 4.53	\$ 4.68	\$ 4.84	\$ 5.00	\$ 5.15
Wages combined.....	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00
Cost per 1000 kiln count.....	\$ 6.53	\$ 6.73	\$ 6.92	\$ 7.11	\$ 7.30	\$ 7.50	\$ 7.69
Cost per 1000 wall measure.....	\$ 5.31	\$ 5.46	\$ 5.62	\$ 5.78	\$ 5.93	\$ 6.09	\$ 6.25
Wages combined.....	\$10.50	\$11.00	\$11.50	\$12.00			
Cost per 1000 kiln count.....	\$ 8.07	\$ 8.46	\$ 8.84	\$ 8.23			
Cost per 1000 wall measure.....	\$ 6.56	\$ 6.87	\$ 7.18	\$ 7.50			

Joints struck on face of 18-inch walls

ARTICLE No. 21

BRICK LAID IN PORTLAND CEMENT MORTAR; GROUTED OR SHOVED JOINTS

LABOR COST LAYING 1000 HARD BRICK, 22-INCHES OR OVER; 8 HOURS PER DAY

Wages combined.....	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50
Cost per 1000 kiln count.....	\$ 3.57	\$ 3.75	\$ 3.92	\$ 4.10	\$ 4.28	\$ 4.47	\$ 4.64
Cost per 1000 wall measure.....	\$ 2.94	\$ 3.08	\$ 3.29	\$ 3.38	\$ 3.52	\$ 3.75	\$ 3.82
Wages combined.....	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.30	\$ 7.75	\$ 8.00	\$ 8.23
Cost per 1000 kiln count.....	\$ 4.82	\$ 5.00	\$ 5.18	\$ 5.35	\$ 5.53	\$ 5.71	\$ 5.89
Cost per 1000 wall measure.....	\$ 3.97	\$ 4.11	\$ 4.26	\$ 4.41	\$ 4.55	\$ 4.70	\$ 4.85

(Continued on page 201)

Wages combined.....	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$ 10.00
Cost per 1000 kiln count.....	\$ 6.07	\$ 6.25	\$ 6.42	\$ 6.60	\$ 6.78	\$ 6.96	\$ 7.14
Cost per 1000 wall measure.....	\$ 5.00	\$ 5.14	\$ 5.29	\$ 5.44	\$ 5.58	\$ 5.73	\$ 5.88
Wages combined.....	\$10.50	\$11.00	\$11.50	\$12.00			
Cost per 1000 kiln count.....	\$ 7.50	\$ 7.85	\$ 8.21	\$ 8.85			
Cost per 1000 wall measure.....	\$ 6.17	\$ 6.47	\$ 6.76	\$ 7.05			

NOTE—The foregoing prices on brick laid in Portland cement and sand do not mean Portland cement Sand and lime putty; to make the mortar easy and smooth to work. When lime is allowed in the cement mortar the masons can lay brick much easier and many more per day. See the following cost on cement and lime or the pure hydraulic cement with or without lime, some hydraulic cements work very near as freely as lime mortar, cement with lime added does not mean lime mortar with the cement sack shaken at the mortar of lime and sand.

ARTICLE No. 22.

Labor cost laying 1,000 common brick in portland cement, sand and lime enough to make easy work, or the hydraulic cement and sand without lime. If lime is added to hydraulic cement the cost will be about the same cost as laying brick in lime mortar.

FULL JOINTS, 9-INCH WALLS, 8 HOURS PER DAY, JOINTS STRUCK ON EACH FACE OF WALLS							
FULL combined.....	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.23	\$ 6.50
Wages 1,000 kiln count.....	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.73	\$ 6.00	\$ 6.25	\$ 6.50
Cost per 1,000 wall measure.....	\$ 4.16	\$ 4.37	\$ 4.58	\$ 4.79	\$ 5.00	\$ 5.20	\$ 5.41

(Continued on page 292)

<i>Wages combined</i>	\$10.50	\$11.00	\$11.50	\$12.00
<i>Cost per 1000 kiln count</i>	\$ 6.17	\$ 6.47	\$ 6.76	\$ 7.05
<i>Cost per 1000 wall measure</i>	\$ 5.00	\$ 5.23	\$ 5.47	\$ 5.71

ARTICLE No. 15

LABOR COST LAYING COMMON BRICK, 18-INCH WALLS, 10 HOURS PER DAY; LIME MORTAR.

<i>Wages combined</i>	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50
<i>Cost per 1000 kiln count</i>	\$ 2.38	\$ 2.50	\$ 2.61	\$ 2.73	\$ 2.85	\$ 2.97	\$ 3.09
<i>Cost per 1000 wall measure</i>	\$ 1.92	\$ 2.01	\$ 2.11	\$ 2.21	\$ 2.30	\$ 2.40	\$ 2.50
<i>Wages combined</i>	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25
<i>Cost per 1000 kiln count</i>	\$ 3.21	\$ 3.33	\$ 3.45	\$ 3.57	\$ 3.69	\$ 3.80	\$ 3.92
<i>Cost per 1000 wall measure</i>	\$ 2.59	\$ 2.69	\$ 2.78	\$ 2.88	\$ 2.98	\$ 3.07	\$ 3.17
<i>Wages combined</i>	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00
<i>Cost per 1000 kiln count</i>	\$ 4.04	\$ 4.16	\$ 4.28	\$ 4.40	\$ 4.52	\$ 4.64	\$ 4.76
<i>Cost per 1000 wall measure</i>	\$ 3.26	\$ 3.36	\$ 3.46	\$ 3.55	\$ 3.65	\$ 3.75	\$ 3.84
<i>Wages combined</i>	\$10.50	\$11.00	\$11.50	\$12.00			
<i>Cost per 1000 kiln count</i>	\$ 5.00	\$ 5.23	\$ 5.47	\$ 5.71			
<i>Cost per 1000 wall measure</i>	\$ 4.03	\$ 4.23	\$ 4.42	\$ 4.61			

ARTICLE No. 16

LABOR COST LAYING COMMON BRICK, 22-INCHES OR THICKER, 10 HOURS PER DAY; LIME
MORTAR.

Wages combined.....	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50
Cost per 1000 kiln count.....	\$ 2.17	\$ 2.28	\$ 2.39	\$ 2.50	\$ 2.60	\$ 2.71	\$ 2.82
Cost per 1000 wall measure.....	\$ 1.78	\$ 1.87	\$ 1.96	\$ 2.05	\$ 2.14	\$ 2.23	\$ 2.32
Wages combined.....	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25
Cost per 1000 kiln count.....	\$ 2.93	\$ 3.04	\$ 3.15	\$ 3.26	\$ 3.33	\$ 3.47	\$ 3.58
Cost per 1000 wall measure.....	\$ 2.41	\$ 2.50	\$ 2.58	\$ 2.67	\$ 2.76	\$ 2.85	\$ 2.94
Wages combined.....	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00
Cost per 1000 kiln count.....	\$ 3.69	\$ 3.80	\$ 3.91	\$ 4.02	\$ 4.13	\$ 4.23	\$ 4.34
Cost per 1000 wall measure.....	\$ 3.03	\$ 3.12	\$ 3.21	\$ 3.30	\$ 3.39	\$ 3.48	\$ 3.57
Wages combined.....	\$10.50	\$11.00	\$11.50	\$12.00			
Cost per 1000 kiln count.....	\$ 4.56	\$ 4.78	\$ 5.00	\$ 5.21			
Cost per 1000 wall measure.....	\$ 3.75	\$ 3.92	\$ 4.10	\$ 4.28			

The foregoing cost of labor, to lay 1000 common brick, on various thicknesses of walls; brick laid in lime mortar. The prices given are for ordinary plain straight work; the brick are to be well layed, but no lime or grouted joints. The inner and outer 4-inches laid to lime, and the filling to have good bed joints, above or side joints not to be filled by special pains. The line walls are figured on cross joints and struck through well. The masons are to be average hands, material to be well supplied, and all labor kept moving.

Wages combined.....	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25
Cost per 1,000 kiln count.....	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.30	\$ 7.75	\$ 8.00	\$ 8.25
Cost per 1,000 wall measure.....	\$ 5.62	\$ 5.83	\$ 6.04	\$ 6.25	\$ 6.45	\$ 6.66	\$ 6.87
Wages combined.....	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00
Cost per 1,000 kiln count.....	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.30	\$ 9.75	\$10.00
Cost per 1,000 wall measure.....	\$ 7.08	\$ 7.29	\$ 7.50	\$ 7.70	\$ 7.91	\$ 8.12	\$ 8.33
Wages combined.....	\$10.50	\$11.00	\$11.50	\$12.00			
Cost per 1,000 kiln count.....	\$10.50	\$11.00	\$11.50	\$12.00			
Cost per 1,000 wall measure.....	\$ 8.75	\$ 9.16	\$ 9.58	\$10.00			

ARTICLE No. 23.

22 FULL JOINTS, 13-INCH WALLS, 8 HOURS PER DAY, JOINTS STRUCK ON FACE OF WALLS.

Wages combined.....	\$ 5.00	\$ 5.25	\$ 5.30	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50
Cost per 1,000 kiln count.....	\$ 4.16	\$ 4.37	\$ 4.58	\$ 4.79	\$ 5.00	\$ 5.20	\$ 5.41
Cost per 1,000 wall measure.....	\$ 3.33	\$ 3.50	\$ 3.66	\$ 3.83	\$ 4.00	\$ 4.16	\$ 4.33
Wages combined.....	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.23
Cost per 1,000 kiln count.....	\$ 5.62	\$ 5.83	\$ 6.04	\$ 6.25	\$ 6.45	\$ 6.66	\$ 6.87
Cost per 1,000 wall measure.....	\$ 4.50	\$ 4.66	\$ 4.83	\$ 5.00	\$ 5.16	\$ 5.33	\$ 5.50
Wages combined.....	\$ 8.50	\$ 8.73	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00
Cost per 1,000 kiln count.....	\$ 7.08	\$ 7.29	\$ 7.50	\$ 7.70	\$ 7.91	\$ 8.12	\$ 8.33
Cost per 1,000 wall measure.....	\$ 5.66	\$ 5.83	\$ 6.00	\$ 6.16	\$ 6.33	\$ 6.50	\$ 6.66

per 1,000 wall measure..... \$ 1.00 \$ 1.50 \$ 1.00 \$ 0.00

ARTICLE No. 24.

FULL JOINTS, 18-INCH WALLS, 8 HOURS PER DAY, JOINTS STRUCK ON FACE OF WALLS

Wages combined.....	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50
Cost per 1,000 kiln count.....	\$ 3.57	\$ 3.75	\$ 3.92	\$ 4.10	\$ 4.28	\$ 4.47	\$ 4.64
Cost per 1,000 wall measure.....	\$ 2.94	\$ 3.08	\$ 3.29	\$ 3.38	\$ 3.52	\$ 3.75	\$ 3.82
Wages combined.....	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25
Cost per 1,000 kiln count.....	\$ 4.82	\$ 5.00	\$ 5.18	\$ 5.35	\$ 5.53	\$ 5.71	\$ 5.89
Cost per 1,000 wall measure.....	\$ 3.97	\$ 4.11	\$ 4.26	\$ 4.41	\$ 4.55	\$ 4.70	\$ 4.85
Wages combined.....	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00
Cost per 1,000 kiln count.....	\$ 6.07	\$ 6.25	\$ 6.42	\$ 6.60	\$ 6.78	\$ 6.96	\$ 7.14
Cost per 1,000 wall measure.....	\$ 5.00	\$ 5.14	\$ 5.29	\$ 5.44	\$ 5.58	\$ 5.73	\$ 5.88
Cost combined.....	\$10.50	\$11.00	\$11.50	\$12.00			
Wages 1,000 kiln count.....	\$ 7.50	\$ 7.85	\$ 8.21	\$ 8.85			
Cost per 1,000 wall measure.....	\$ 6.17	\$ 6.47	\$ 6.76	\$ 7.05			

ARTICLE No. 25.

FULL JOINTS, 22 INCHES OR THICKER, 8 HOURS PER DAY, JOINTS STRUCK ON FACE OF WALL

Wages combined.....	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50
Cost per 1,000 kiln count.....	\$ 3.12	\$ 3.28	\$ 3.44	\$ 3.59	\$ 3.75	\$ 3.90	\$ 4.06
Cost per 1,000 wall measure.....	\$ 2.50	\$ 2.62	\$ 2.75	\$ 2.87	\$ 3.00	\$ 3.12	\$ 3.25
Wages combined.....	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25
Cost per 1,000 kiln count.....	\$ 4.21	\$ 4.37	\$ 4.53	\$ 4.68	\$ 4.84	\$ 5.00	\$ 5.15
Cost per 1,000 wall measure.....	\$ 3.37	\$ 3.50	\$ 3.62	\$ 3.75	\$ 3.87	\$ 4.00	\$ 4.12
Wages combined.....	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00
Cost per 1,000 kiln count.....	\$ 5.31	\$ 5.46	\$ 5.62	\$ 5.78	\$ 5.93	\$ 6.09	\$ 6.25
Cost per 1,000 wall measure.....	\$ 4.25	\$ 4.37	\$ 4.50	\$ 4.62	\$ 4.75	\$ 4.87	\$ 5.00
Wages combined.....	\$10.50	\$11.00	\$11.50	\$12.00			
Cost per 1,000 kiln count.....	\$ 6.56	\$ 6.87	\$ 7.18	\$ 7.50			
Cost per 1,000 wall measure.....	\$ 5.25	\$ 5.50	\$ 5.75	\$ 6.00			

ARTICLE No. 26.

LABOR COST PIER BUILDING, FOUR BRICKS IN LENGTH OR LESS—PORTLAND CEMENT
AND SAND—8 HOURS PER DAY—EACH BRICK THOROUGHLY BEDDED AND

SURROUNDED IN CEMENT

Wages combined.....	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50
Cost per 1,000 kiln count.....	\$ 6.25	\$ 6.56	\$ 6.87	\$ 7.18	\$ 7.50	\$ 7.81	\$ 8.12
Cost per 1,000 wall measure.....	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50

(Continued on page 295)

per 1,000 wall measure.....	\$ 0.75	\$ 1.00	\$ 1.25	\$ 1.50	\$ 1.75	\$ 8.00	\$ 8.25
Wages combined.....	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$ 10.00
Cost per 1,000 kiln count.....	\$10.62	\$10.93	\$11.25	\$11.56	\$11.87	\$12.18	\$12.50
Cost per 1,000 wall measure.....	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$ 10.00
Wages combined.....	\$10.50	\$11.00	\$11.50	\$12.00			
Cost per 1,000 kiln count.....	\$13.12	\$13.75	\$14.37	\$15.00			
Cost per 1,000 wall measure.....	\$10.50	\$11.00	\$11.50	\$12.00			

ARTICLE No. 27.

LABOR COST PIER BUILDING, FOUR BRICKS IN LENGTH OR LESS—PORTLAND CEMENT,
SAND AND LIME OR HYDRAULIC CEMENT WITH NO LIME, SOLID WORK—

HOURS PER DAY

Wages combined.....	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.30
Cost per 1,000 kiln count.....	\$ 5.55	\$ 5.83	\$ 6.11	\$ 6.33	\$ 6.66	\$ 6.94	\$ 7.22
Cost per 1,000 wall measure.....	\$ 4.54	\$ 4.77	\$ 5.00	\$ 5.22	\$ 5.45	\$ 5.77	\$ 5.90
Wages combined.....	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25
Cost per 1,000 kiln count.....	\$ 7.50	\$ 7.77	\$ 8.05	\$ 8.33	\$ 8.61	\$ 8.88	\$ 9.16
Cost per 1,000 wall measure.....	\$ 6.13	\$ 6.36	\$ 6.59	\$ 6.81	\$ 7.04	\$ 7.27	\$ 7.50
Wages combined.....	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$ 10.00
Cost per 1,000 kiln count.....	\$ 9.44	\$ 9.72	\$ 10.00	\$ 10.20	\$ 10.55	\$ 10.83	\$ 11.11
Cost per 1,000 wall measure.....	\$ 7.72	\$ 7.95	\$ 8.18	\$ 8.40	\$ 8.63	\$ 8.86	\$ 9.09

(Continued on page 296)

Wages combined.....	\$10.50	\$11.00	\$11.50	\$12.00
Cost per 1,000 kiln count.....	\$11.66	\$12.22	\$12.77	\$13.33
Cost per 1,000 wall measure.....	\$ 9.54	\$10.00	\$10.45	\$10.90

ARTICLE No. 28.

LABOR COST PIER BUILDING, FOUR BRICKS IN LENGTH OR LESS—LIME MORTAR—8 HOURS

	PER DAY			
Wages combined.....	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.75
Cost per 1,000 kiln count.....	\$ 4.54	\$ 4.77	\$ 5.00	\$ 5.22
Cost per 1,000 wall measure.....	\$ 3.84	\$ 4.03	\$ 4.23	\$ 4.42
Wages combined.....	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50
Cost per 1,000 kiln count.....	\$ 6.13	\$ 6.36	\$ 6.59	\$ 6.81
Cost per 1 000 wali measure.....	\$ 5.19	\$ 5.38	\$ 5.57	\$ 5.76
Wages combined.....	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25
Cost per 1,000 kiln count.....	\$ 7.72	\$ 7.95	\$ 8.18	\$ 8.40
Cost per 1,000 wall measure.....	\$ 6.53	\$ 6.73	\$ 6.92	\$ 7.11
Wages combined.....	\$10.50	\$11.00	\$11.50	\$12.00
Cost per 1,000 kiln count.....	\$ 9.54	\$10.00	\$10.45	\$10.90
Cost per 1,000 wall measure.....	\$ 8.07	\$ 8.46	\$ 8.84	\$ 8.23

NOTE.—When estimating brick labor, keep each class of work separate. If 9-inch walls and 13 inches with other walls, 18 or 22 inches or over, take cost tables as given. If walls have a lot of openings with piers, four bricks in length or less, figure labor cost as per tables on "Pier Building." To charge for the work as solid wall, you will not be paid as you would have to pay out for labor.

FACE BRICK WALLS

to be cut, 8 hours per day: Labor cost laying face or pressed brick, plain walls, few openings, four brick piers or over; no arches

Wages combined.....	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50
Cost per 1,000 kiln count.....	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50	\$13.00
Cost per 1,000 wall measure.....	\$ 9.09	\$ 9.54	-10.00	\$10.45	\$10.90	\$11.36	\$11.81
Wages combined.....	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25
Cost per 1,000 kiln count.....	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 wall measure.....	\$12.27	\$12.72	\$13.18	\$13.63	\$14.09	\$14.54	\$15.00
Wages combined.....	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00
Cost per 1,000 kiln count.....	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$19.50	\$20.00
Cost per 1,000 wall measure.....	\$15.45	\$15.90	\$16.36	\$16.81	\$17.27	\$17.72	\$18.18
Wages combined.....	\$10.50	\$11.00	\$11.50	\$12.00			
Cost per 1,000 kiln count.....	\$21.00	\$22.00	\$23.00	\$24.00			
Cost per 1,000 wall measure.....	\$19.09	\$20.00	\$20.90	\$21.81			

ARTICLE No. 30. LABOR COST LAYING FACE BRICK, BUTTERED JOINTS

Walls plain composed of angles, corners, octagon or circle bays, ordinary size piers, no arches which require cutting for radius, etc., plain residence work or similar, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50
Cost per 1,000 kiln count.....	\$12.50	\$13.12	\$13.73	\$14.37	\$15.00	\$15.62	\$16.25
Cost per 1,000 wall measure.....	\$11.11	\$11.66	\$12.22	\$12.70	\$13.30	\$13.88	\$14.44

(Continued on page 298)

Wages Combined.....	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25
Cost per 1,000 kiln count.....	\$16.87	\$17.50	\$18.12	\$18.75	\$19.37	\$20.00	\$20.62
Cost per 1,000 wall measure.....	\$15.00	\$15.50	\$16.11	\$16.66	\$17.22	\$17.77	\$18.33
Wages Combined.....	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00
Cost per 1,000 kiln count.....	\$21.25	\$21.87	\$22.50	\$23.12	\$23.75	\$24.37	\$25.00
Cost per 1,000 wall measure.....	\$18.88	\$19.44	\$20.00	\$20.55	\$21.11	\$21.66	\$22.22
Wages combined.....	\$10.50	\$11.00	\$11.50	\$12.00			
Cost per 1,000 kiln count.....	\$26.25	\$27.50	\$28.75	\$30.00			
Cost per 1,000 wall measure.....	\$23.33	\$24.44	\$25.55	\$26.66			

ARTICLE No. 31.

LABOR COST LAYING FACE BRICK, BUTTERED JOINTS

Long, plain walls, no openings or piers, etc., 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50
Cost per 1,000 kiln count.....	\$ 8.33	\$ 8.75	\$ 9.16	\$ 9.58	\$10.00	\$10.41	\$10.83
Cost per 1,000 wall measure.....	\$ 7.69	\$ 8.07	\$ 8.46	\$ 8.84	\$ 9.23	\$ 9.61	\$10.00
Wages combined.....	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25
Cost per 1,000 kiln count.....	\$11.25	\$11.66	\$12.08	\$12.50	\$12.91	\$13.33	\$13.75
Cost per 1,000 wall measure.....	\$10.38	\$10.76	\$11.15	\$11.53	\$11.92	\$12.30	\$12.69

(Continued on page 299)

Cost per 1,000 kiln count.....	\$12.10	\$12.30	\$13.00	\$13.21	\$13.03	\$10.63	\$10.00
Cost per 1,000 wall measure.....	\$13.07	\$13.46	\$13.84	\$14.23	\$14.61	\$15.00	\$15.38
Wages combined.....	\$10.50	\$11.00	\$11.50	\$12.00			
Cost per 1,000 kiln count.....	\$17.50	\$18.33	\$19.16	\$20.00			
Cost per 1,000 wall measure.....	\$16.15	\$16.92	\$17.69	\$18.46			

ARTICLE NO. 32.

PIER WORK, BUTTERED JOINTS

Labor cost laying face brick piers, four bricks or more, no cutting for dimension, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50
Cost per 1,000 kiln count.....	\$14.28	\$15.00	\$15.71	\$16.42	\$17.14	\$17.85	\$18.57
Cost per 1,000 wall measure.....	\$13.15	\$13.81	\$14.47	\$15.13	\$15.78	\$16.44	\$17.10
Wages combined.....	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25
Cost per 1,000 kiln count.....	\$19.28	\$20.00	\$20.71	\$21.42	\$22.14	\$22.85	\$23.57
Cost per 1,000 wall measure.....	\$17.76	\$18.42	\$19.07	\$19.73	\$20.40	\$21.05	\$21.71
Wages combined.....	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00
Cost per 1,000 kiln count.....	\$24.28	\$25.00	\$25.71	\$26.42	\$27.14	\$27.85	\$28.57
Cost per 1,000 wall measure.....	\$23.36	\$23.02	\$23.68	\$24.34	\$25.00	\$25.65	\$26.31
Cost combined.....	\$10.50	\$11.00	\$11.50	\$12.00			
Wages per 1,000 kiln count.....	\$30.00	\$31.42	\$32.85	\$34.28			
Cost per 1,000 wall measure.....	\$27.63	\$28.94	\$30.26	\$31.57			

ARTICLE No. 33.

Labor cost laying face brick piers, four bricks or more, no cutting each course to dimension, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50
Cost per 1,000 kiln count.....	\$16.66	\$17.50	\$18.33	\$19.16	\$20.00	\$20.83	\$21.66
Cost per 1,000 wall measure.....	\$15.15	\$15.90	\$16.66	\$17.42	\$18.18	\$18.93	\$19.69
Wages combined.....	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25
Cost per 1,000 kiln count.....	\$22.50	\$23.33	\$24.16	\$25.00	\$25.83	\$26.66	\$27.50
Cost per 1,000 wall measure.....	\$20.45	\$21.21	\$21.96	\$22.72	\$23.48	\$24.24	\$25.00
Wages combined.....	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00
Cost per 1,000 kiln count.....	\$28.33	\$29.26	\$30.00	\$30.83	\$31.66	\$32.50	\$33.33
Cost per 1,000 wall measure.....	\$25.75	\$26.51	\$27.27	\$28.03	\$28.78	\$29.54	\$30.30
Wages combined.....	\$10.50	\$11.00	\$11.50	\$12.00			
Cost per 1,000 kiln count.....	\$35.00	\$36.66	\$38.33	\$40.00			
Cost per 1,000 wall measure.....	\$31.81	\$33.33	\$34.84	\$36.36			

ARTICLE No. 34.

Labor cost laying face brick piers, four bricks or less in length, cutting for dimension, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50
Cost per 1,000 kiln count.....	\$22.22	\$23.33	\$24.44	\$25.55	\$26.66	\$27.77	\$28.88
Cost per 1,000 wall measure.....	\$20.00	\$21.00	\$22.00	\$23.00	\$24.00	\$25.00	\$26.00

(Continued on page 301)

ARTICLE No. 35.

Labor cost laying face brick piers, four bricks or less in length, cutting each course to dimension, 8 hours per day:

Wages combined.....	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25
Cost per 1,000 kiln count.....	\$30.00	\$31.11	\$32.22	\$33.33	\$30.44	\$35.53	\$36.66
Cost per 1,000 wall measure.....	\$27.00	\$28.00	\$29.00	\$30.00	\$31.00	\$32.00	\$33.00
Wages combined.....	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00
Cost per 1,000 kiln count.....	\$37.77	\$38.88	\$40.00	\$41.11	\$42.22	\$43.33	\$44.44
Cost per 1,000 wall measure.....	\$34.00	\$35.00	\$36.00	\$37.00	\$38.00	\$39.00	\$40.00
Wages combined.....	\$10.50	\$11.00	\$11.50	\$12.00			
Cost per 1,000 kiln count.....	\$46.66	\$48.88	\$51.11	\$53.33			
Cost per 1,000 wall measure.....	\$42.00	\$44.00	\$46.00	\$48.00			

Wages combined.....	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50
Cost per 1,000 kiln count.....	\$25.00	\$26.25	\$27.50	\$28.75	\$30.00	\$31.25	\$32.50
Cost per 1,000 wall measure.....	\$22.72	\$23.86	\$25.00	\$26.13	\$27.27	\$28.40	\$29.54
Wages combined.....	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25
Cost per 1,000 kiln count.....	\$33.75	\$35.00	\$36.25	\$37.50	\$38.75	\$40.00	\$41.25
Cost per 1,000 wall measure.....	\$30.68	\$31.81	\$32.50	\$34.09	\$35.22	\$36.36	\$37.50

(Continued on page 302)

ARTICLE No. 33.

Labor cost laying face brick piers, four bricks or more, no cutting each course to dimension, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50
Cost per 1,000 kiln count.....	\$16.66	\$17.50	\$18.33	\$19.16	\$20.00	\$20.83	\$21.66
Cost per 1,000 wall measure.....	\$15.15	\$15.90	\$16.66	\$17.42	\$18.18	\$18.93	\$19.69
Wages combined.....	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25
Cost per 1,000 kiln count.....	\$22.50	\$23.33	\$24.16	\$25.00	\$25.83	\$26.66	\$27.50
Cost per 1,000 wall measure.....	\$20.45	\$21.21	\$21.96	\$22.72	\$23.48	\$24.24	\$25.00
Wages combined.....	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00
Cost per 1,000 kiln count.....	\$28.33	\$29.26	\$30.00	\$30.83	\$31.66	\$32.50	\$33.33
Cost per 1,000 wall measure.....	\$25.75	\$26.51	\$27.27	\$28.03	\$28.78	\$29.54	\$30.30
Wages combined.....	\$10.50	\$11.00	\$11.50	\$12.00			
Cost per 1,000 kiln count.....	\$35.00	\$36.66	\$38.33	\$40.00			
Cost per 1,000 wall measure.....	\$31.81	\$33.33	\$34.84	\$36.36			

ARTICLE No. 34.

Labor cost laying face brick piers, four bricks or less in length, cutting for dimension, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50
Cost per 1,000 kiln count.....	\$22.22	\$23.33	\$24.44	\$25.55	\$26.66	\$27.77	\$28.88
Cost per 1,000 wall measure.....	\$20.00	\$21.00	\$22.00	\$23.00	\$24.00	\$25.00	\$26.00

(Continued on page 301)

Wages combined.....	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25
Cost per 1,000 kiln count.....	\$30.00	\$31.11	\$32.22	\$33.33	\$30.44	\$35.53	\$36.66
Cost per 1,000 wall measure.....	\$27.00	\$28.00	\$29.00	\$30.00	\$31.00	\$32.00	\$33.00
Wages combined.....	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00
Cost per 1,000 kiln count.....	\$37.77	\$38.88	\$40.00	\$41.11	\$42.22	\$43.33	\$44.44
Cost per 1,000 wall measure.....	\$34.00	\$35.00	\$36.00	\$37.00	\$38.00	\$39.00	\$40.00
Wages combined.....	\$10.50	\$11.00	\$11.50	\$12.00			
Cost per 1,000 kiln count.....	\$46.66	\$48.88	\$51.11	\$53.33			
Cost per 1,000 wall measure.....	\$42.00	\$44.00	\$46.00	\$48.00			

ARTICLE No. 35.

Labor cost laying face brick piers, four bricks or less in length, cutting each course to dimension, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50
Cost per 1,000 kiln count.....	\$25.00	\$26.25	\$27.50	\$28.75	\$30.00	\$31.25	\$32.50
Cost per 1,000 wall measure.....	\$22.72	\$23.86	\$25.00	\$26.13	\$27.27	\$28.40	\$29.54
Wages combined.....	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25
Cost per 1,000 kiln count.....	\$33.75	\$35.00	\$36.25	\$37.50	\$38.75	\$40.00	\$41.25
Cost per 1,000 wall measure.....	\$30.68	\$31.81	\$32.50	\$34.09	\$35.22	\$36.36	\$37.50

(Continued on page 302)

Wages combined.....	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75	\$10.00
Cost per 1,000 kiln count.....	\$42.30	\$43.75	\$45.00	\$46.25	\$47.50	\$48.75	\$50.00
Cost per 1,000 wall measure.....	\$38.63	\$39.77	\$40.90	\$42.04	\$43.18	\$44.31	\$45.43
Wages combined.....	\$10.50	\$11.00	\$11.50	\$12.00			
Cost per 1,000 kiln count.....	\$52.50	\$55.00	\$57.50	\$60.00			
Cost per 1,000 wall measure.....	\$47.72	\$30.00	\$52.27	\$54.54			

NOTE.—One helper to every two masons should supply material for face brick work on one or two-story buildings. This does not include making of mortar, but includes the tempering and supplying same. If bricks are to be gauged, figure extra labor for same (see tables for "Labor Cost Gauging Brick.")

ARTICLE No. 36.

Labor cost cutting and laying brick of Jack arch, buttered joints, 8 hours per day, each brick or piece of brick to be counted as a brick, bottom of arch cut; also all head joints running with wall joints:

Wages per mason.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50
Cost per 100 brick.....	\$5.00	\$5.31 $\frac{1}{4}$	\$5.62 $\frac{1}{2}$	\$5.93 $\frac{3}{4}$	\$6.25	\$6.56 $\frac{1}{4}$	\$6.87 $\frac{1}{2}$
Cost per brick (cts.).....	.05	.05%	.05%	.05%	.06 $\frac{1}{4}$	.06%	.06%
Wages per mason.....	\$5.75	\$6.00	\$6.25	\$6.50	\$6.75	\$7.00	
Cost per 100 brick.....	\$7.18 $\frac{3}{4}$	\$7.50	\$7.81 $\frac{1}{4}$	\$8.12 $\frac{1}{2}$	\$8.43 $\frac{3}{4}$	\$8.75	
Cost per brick (cts.).....	.07 $\frac{3}{4}$	.07 $\frac{1}{2}$	.07%	.08 $\frac{1}{4}$	.08 $\frac{1}{2}$	.08%	

Labor cost cutting and laying semi-circle or segment arches, 8 hours per day, each brick or piece of brick to be counted as a brick:

Wages per mason.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50
Cost per 100 brick.....	\$2.50	\$2.65½	\$2.81¼	\$2.96	\$3.12½	\$3.28½	\$3.43¾
Cost per brick (cts.).....	.02½	2 21-32	.02¾	2 31-32	3 2-16	3 9-32	.03¾
Wages per mason.....	\$5.75	\$6.00	\$6.25	\$6.50	\$6.75	\$7.00	
Cost per 100 brick.....	\$3.59¾	\$3.75	\$3.90¾	\$4.06¼	\$4.21¾	\$4.37½	
Cost per brick (cts.).....	3 19-32	.03¾	3 29-32	.04¼	4 7-32	.04¾	

NOTE.—WHEN ESTIMATING BRICK WORK, figure all arches separate from wall work. If the arches are jack or semi-circle, which require each brick to be cut, figure the number of brick, including pieces for each arch, then by the cost per brick as shown in the foregoing tables. The cost of labor being mostly for the mason, the work being slow, one laborer would handily keep four to six masons supplied with brick and mortar. We may say figure one-fourth helper's wages to wages paid to masons. If the mason receives \$5.50 per 8 hours, the helper \$3.00 per 8 hours and one-fourth of \$3.00 equals 75 cents, plus \$5.50 equals \$6.25. \$5.50 the arch is a jack about 4 feet wide and requires 50 bricks, including pieces, then as per cost table, \$6.25 say, brick equals 7½ times 50 equals \$3.90¾ per arch, for labor only.

ARTICLE No. 38.

SUPERINTENDENT, FOREMAN, TIMEKEEPER, MATERIAL CLERK, WATER CARRIER, ETC.

Lime mortar, showing cost to be added to 1,000 common brick kiln count or wall measure; wages to be combined for one or all the above named help; basis, six masons laying 13-inch walls, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count (cts.).....	.55	.61	.66	.72	.77	.83	.88	.94
Cost per 1,000 wall measure (cts.)...	.45	.50	.54	.59	.63	.68	.72	.77
Wages combined.....	\$ 9.00	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50
Cost per 1,000 kiln count (cts.).....	1.00	1.05	1.11	1.16	1.22	1.27	1.33	1.38
Cost per 1,000 wall measure (cts.)...	.81	.86	.90	.95	1.00	1.04	1.09	1.13
Wages combined.....	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 kiln count cts.).....	1.44	1.50	1.55	1.61	1.66	1.72	1.77	1.83
Cost per 1,000 wall measure (cts.)...	1.18	1.22	1.27	1.31	1.36	1.40	1.45	1.50
Wages combined.....	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$20.00		
Cost per 1,000 kiln count (cts.).....	1.88	1.94	2.00	2.05	2.11	2.22		
Cost per 1,000 wall measure (cts.)...	1.54	1.59	1.63	1.68	1.72	1.81		

ARTICLE No. 39.

13-INCH WALLS

Brick laid in Portland cement mortar instead of lime mortar as above given, six masons:

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count (cts.).....	.75	.83	.90	.98	1.06	1.13	1.21	1.28
Cost per 1,000 wall measure (cts.)...	.64	.70	.76	.83	.89	.96	1.02	1.08
Wages combined.....	\$ 9.00	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50
Cost per 1,000 kiln count (cts.).....	1.36	1.43	1.51	1.59	1.66	1.74	1.81	1.89
Cost per 1,000 wall measure (cts.)...	1.15	1.21	1.28	1.33	1.41	1.47	1.53	1.60
Wages combined.....	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 kiln count (cts.).....	1.96	2.04	2.12	2.19	2.27	2.34	2.42	2.50
Cost per 1,000 wall measure (cts.)...	1.66	1.73	1.79	1.85	1.92	1.98	2.05	2.11
Wages combined.....	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$20.00		
Cost per 1,000 kiln count (cts.).....	2.57	2.65	2.72	2.80	2.87	3.03		
Cost per 1,000 wall measure (cts.)...	2.17	2.24	2.30	2.37	2.43	2.56		

ARTICLE No. 40

13-INCH WALLS

Brick laid in Portland cement, sand and lime or hydraulic cement and sand, six masons 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count (cts.).....	.69	.76	.83	.90	.97	1.04	1.11	1.18
Cost per 1,000 wall measure (cts.)...	.55	.61	.66	.72	.77	.83	.88	.94

(Continued on page 306)

ARTICLE No. 41.

13-INCH WALLS

Brick laid in lime mortar, nine masons, 8 hours per day:

Wages combined.....	\$ 9.00	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50
Cost per 1,000 kiln count (cts.).....	\$1.25	1.31	1.38	1.45	1.52	1.59	1.66	1.73
Cost per 1,000 wall measure (cts.)...	1.00	1.05	1.11	1.16	1.22	1.27	1.33	1.38
Wages combined.....	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 kiln count (cts.).....	1.79	1.87	1.94	2.01	2.08	2.15	2.22	2.29
Cost per 1,000 wall measure (cts.)...	1.44	1.50	1.55	1.61	1.66	1.72	1.77	1.83
Wages combined.....	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$19.50	\$20.00	
Cost per 1,000 kiln count (cts.).....	2.36	2.43	2.50	2.56	2.63	2.77		
Cost per 1,000 wall measure (cts.)...	1.88	1.94	2.00	2.05	2.11	2.22		
Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count (cts.).....	.41	.45	.50	.54	.58	.62	.66	.70
Cost per 1,000 wall measure (cts.)...	.33	.36	.40	.43	.46	.50	.53	.56
Wages combined.....	\$ 9.00	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50
Cost per 1,000 kiln count (cts.).....	.75	.79	.83	.87	.91	.95	1.00	1.04
Cost per 1,000 wall measure (cts.)...	.60	.63	.66	.70	.73	.76	.80	.83

(Continued on page 307)

Wages combined.....	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 kiln count (cts.).....	1.08	1.12	1.16	1.20	1.25	1.29	1.33	1.37
Cost per 1,000 wall measure.....	.86	.90	.93	.96	1.00	1.03	1.06	1.10
Wages combined.....	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$20.00		
Cost per 1,000 kiln count (cts.).....	1.41	1.45	1.50	1.54	1.58	1.66		
Cost per 1,000 wall measure.....	1.13	1.16	1.20	1.23	1.26	1.33		

ARTICLE No. 42.

SUPERINTENDENT, FOREMAN, TIMEKEEPER, MATERIAL CLERK, WATER CARRIER, ETC.

Portland cement mortar, showing cost to be added to 1,000 common brick kiln count or wall measure; wages to be combined for one or all the above named help; basis, nine masons laying 13-inch walls, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.50	.55	.60	.65	.70	.75	.80	.85
Cost per 1,000 wall measure.....	.41	.45	.50	.54	.58	.62	.66	.70
Wages combined.....	\$ 9.00	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50
Cost per 1,000 kiln count.....	.90	.95	1.00	1.05	1.10	1.15	1.20	1.25
Cost per 1,000 wall measure.....	.75	.79	.83	.87	.91	.95	1.00	1.04
Wages combined.....	\$13.00	\$13.50	\$14.00	\$14.30	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 kiln count.....	1.30	1.35	1.40	1.45	1.50	1.55	1.60	1.65
Cost per 1,000 wall measure.....	1.08	1.12	1.16	1.20	1.25	1.29	1.33	1.37

(Continued on page 308)

Wages combined.....	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$20.00
Cost per 1,000 kiln count.....	1.70	1.75	1.80	1.85	1.90	2.00
Cost per 1,000 wall measure.....	1.41	1.45	1.50	1.54	1.58	1.66

ARTICLE No. 43.

13-INCH WALLS

Brick laid in Portland cement, sand and lime or Hydraulic cement and sand, nine masons, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.46	.50	.55	.60	.64	.69	.74	.78
Cost per 1,000 wall measure.....	.37	.40	.44	.48	.51	.55	.59	.62
Wages combined.....	\$ 9.00	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50
Cost per 1,000 kiln count.....	.83	.87	.92	.97	1.01	1.06	1.11	1.15
Cost per 1,000 wall measure.....	.66	.70	.73	.77	.81	.85	.88	.92
Wages combined.....	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 kiln count.....	1.20	1.25	1.29	1.34	1.38	1.43	1.48	1.52
Cost per 1,000 wall measure.....	.92	1.00	1.03	1.07	1.11	1.14	1.18	1.22
Wages combined.....	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$20.00		
Cost per 1,000 kiln count.....	1.57	1.62	1.66	1.71	1.75	1.85		
Cost per 1,000 wall measure.....	1.25	1.29	1.33	1.37	1.40	1.48		

ARTICLE No. 44.

13-INCH WALLS

Brick laid in lime mortar, twelve masons, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.29	.32	.35	.38	.41	.44	.47	.50
Cost per 1,000 wall measure.....	.23	.26	.28	.30	.33	.35	.38	.40

Wages combined.....	\$ 9.00	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50
Cost per 1,000 kiln count.....	.52	.55	.58	.61	.64	.67	.70	.73
Cost per 1,000 wall measure.....	.42	.45	.47	.50	.52	.54	.57	.59

Wages combined.....	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 kiln count.....	.76	.79	.82	.85	.88	.91	.94	.97
Cost per 1,000 wall measure.....	.61	.64	.66	.69	.71	.73	.76	.78

Wages combined.....	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$20.00		
Cost per 1,000 kiln count.....	1.00	1.02	1.05	1.08	1.11	1.17		
Cost per 1,000 wall measure.....	.80	.83	.85	.88	.90	.95		

ARTICLE No. 45.

13-INCH WALLS

Brick laid in Portland cement, twelve masons, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.37	.41	.45	.49	.53	.56	.60	.64
Cost per 1,000 wall measure.....	.32	.35	.38	.41	.45	.48	.51	.54

(Continued on page 310)

Wages combined.....	\$ 9.00	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50
Cost per 1,000 kiln count.....	.68	.71	.75	.79	.83	.87	.90	.94
Cost per 1,000 wall measure.....	.58	.61	.64	.67	.70	.74	.77	.80
Wages combined.....	\$13.00	\$13.30	\$14.00	\$14.30	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 kiln count.....	.98	1.02	1.06	1.09	1.13	1.17	1.21	1.25
Cost per 1,000 wall measure.....	.83	.87	.90	.93	.96	1.00	1.04	1.06
Wages combined.....	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$20.00		
Cost per 1,000 kiln count.....	1.28	1.32	1.36	1.40	1.43	1.51		
Cost per 1,000 wall measure.....	1.09	1.12	1.16	1.19	1.22	1.29		

ARTICLE No. 46.

13-INCH WALLS

Brick laid in Portland cement, sand and lime or Hydraulic cement and sand, twelve masons, 8 hours per day.

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.34	.38	.41	.45	.48	.52	.55	.59
Cost per 1,000 wall measure.....	.27	.30	.33	.36	.38	.41	.44	.47
Wages combined.....	\$ 9.00	\$ 9.30	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50
Cost per 1,000 kiln count.....	.62	.65	.69	.72	.76	.79	.83	.86
Cost per 1,000 wall measure.....	.50	.52	.58	.58	.61	.63	.66	.69

(Continued on page 311)

Wages combined.....	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 kiln count.....	.90	.93	.97	1.00	1.04	1.07	1.11	1.14
Cost per 1,000 wall measure.....	.72	.75	.77	.80	.83	.86	.88	.91
Wages combined.....	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$20.00		
Cost per 1,000 kiln count.....	1.18	1.21	1.25	1.28	1.31	1.38		
Cost per 1,000 wall measure.....	.94	.97	1.00	1.02	1.05	1.07		

ARTICLE No. 47.

13-INCH WALLS

Brick laid in line mortar, fifteen masons, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.23	.26	2.28	.30	.33	.35	.38	.40
Cost per 1,000 wall measure.....	.19	.20	.22	.25	.26	.28	.30	.32
Wages combined.....	\$ 9.00	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50
Cost per 1,000 kiln count.....	.42	.45	.47	.50	.52	.54	.57	.59
Cost per 1,000 wall measure.....	.34	.36	.38	.40	.42	.44	.46	.48
Wages combined.....	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 kiln count.....	.61	.64	.66	.69	.71	.73	.76	.78
Cost per 1,000 wall measure.....	.50	.51	.53	.55	.57	.59	.61	.63
Wages combined.....	\$17.00	\$17.50	\$18.00	\$18.40	\$19.00	\$20.00		
Cost per 1,000 kiln count.....	.80	.83	.85	.88	.90	.95		
Cost per 1,000 wall measure.....	.65	.67	.69	.71	.73	.76		

ARTICLE No. 48.

13-INCH WALLS

Brick laid in Portland cement, fifteen masons, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.30	.33	.36	.39	.42	.45	.48	.51
Cost per 1,000 wall measure.....	.24	.26	.29	.31	.34	.36	.39	.41
Wages combined.....	\$ 9.00	\$ 9.50	\$ 10.00	\$ 10.50	\$ 11.00	\$ 11.50	\$ 12.00	\$ 12.50
Cost per 1,000 kiln count.....	.54	.57	.60	.63	.66	.69	.72	.75
Cost per 1,000 wall measure.....	.43	.46	.48	.51	.53	.56	.58	.60
Wages combined.....	\$ 13.00	\$ 13.30	\$ 14.00	\$ 14.50	\$ 15.00	\$ 15.50	\$ 16.00	\$ 16.30
Cost per 1,000 kiln count.....	.78	.81	.84	.87	.90	.93	.96	1.00
Cost per 1,000 wall measure.....	.63	.65	.68	.70	.73	.75	.78	.80
Wages combined.....	\$ 17.00	\$ 17.50	\$ 18.00	\$ 18.50	\$ 19.00	\$ 20.00		
Cost per 1,000 kiln count.....	1.03	1.06	1.09	1.12	1.15	1.21		
Cost per 1,000 wall measure.....	.82	.85	.87	.90	.92	.97		

ARTICLE No. 49.

13-INCH WALLS

Brick laid in Portland cement, sand and lime or Hydraulic cement and sand, fifteen masons, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.27	.30	.33	.36	.38	.41	.44	.47
Cost per 1,000 wall measure.....	.22	.24	.26	.28	.31	.33	.35	.37

(Continued on page 313)

Wages combined.....	\$ 9.00	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50
Cost per 1,000 kiln count.....	.50	.52	.55	.58	.61	.63	.66	.69
Cost per 1,000 wall measure.....	.40	.42	.44	.46	.48	.51	.53	.55
Wages combined.....	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 kiln count.....	.72	.75	.77	.80	.83	.86	.88	.91
Cost per 1,000 wall measure.....	.57	.60	.62	.64	.66	.68	.71	.73
Wages combined.....	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$20.00		
Cost per 1,000 kiln count.....	.94	.97	1.00	1.02	1.05	1.11		
Cost per 1,000 wall measure.....	.75	.77	.80	.82	.84	.88		

ARTICLE No. 50.

313 SUPERINTENDENT, FOREMAN, TIMEKEEPER, MATERIAL CLERK, WATER CARRIER, ETC. 13-INCH WALLS

Brick laid in lime mortar, eighteen masons, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.20	.22	.24	.26	.28	.30	.32	.34
Cost per 1,000 wall measure.....	.16	.17	.19	.20	.22	.24	.25	.27
Wages combined.....	\$ 9.00	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50
Cost per 1,000 kiln count.....	.36	.38	.40	.42	.44	.46	.48	.50
Cost per 1,000 wall measure.....	.28	.30	.32	.33	.35	.36	.38	.40

(Continued on page 314)

Wages combined.....	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 kiln count.....	.52	.54	.56	.58	.60	.62	.64	.66
Cost per 1,000 wall measure.....	.41	.43	.44	.46	.48	.49	.51	.52
Wages combined.....	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$20.00		
Cost per 1,000 kiln count.....	.68	.70	.72	.74	.76	.80		
Cost per 1,000 wall measure.....	.54	.56	.57	.59	.60	.64		

ARTICLE No. 51.

13-INCH WALLS

Brick laid in Portland cement, eighteen masons, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.25	.27	.30	.32	.35	.37	.40	.42
Cost per 1,000 wall measure.....	.20	.22	.24	.26	.28	.30	.32	.34
Wages combined.....	\$ 9.00	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50
Cost per 1,000 kiln count.....	.45	.47	.50	.52	.55	.57	.60	.62
Cost per 1,000 wall measure.....	.36	.38	.40	.42	.44	.46	.48	.50
Wages combined.....	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 kiln count.....	.65	.67	.70	.72	.75	.77	.80	.82
Cost per 1,000 wall measure.....	.52	.54	.56	.58	.60	.62	.64	.66
Wages combined.....	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$20.00		
Cost per 1,000 kiln count.....	.85	.87	.90	.92	.95	1.00		
Cost per 1,000 wall measure.....	.68	.70	.72	.74	.76	.80		

ARTICLE No. 52.

13-INCH WALLS

Brick laid in Portland cement, sand and lime or Hydraulic cement and sand, eighteen masons, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.22	.25	.27	.29	.31	.34	.36	.38
Cost per 1,000 wall measure.....	.18	.20	.21	.23	.25	.27	.29	.30

Wages combined.....	\$ 9.00	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50
Cost per 1,000 kiln count.....	.40	.43	.45	.47	.50	.52	.54	.56
Cost per 1,000 wall measure.....	.32	.34	.36	.38	.40	.41	.43	.45

Wages combined.....	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 kiln count.....	.59	.61	.63	.65	.68	.70	.72	.75
Cost per 1,000 wall measure.....	.47	.49	.50	.52	.54	.56	.58	.60

Wages combined.....	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$20.00
Cost per 1,000 kiln count.....	.77	.79	.81	.84	.86	.90
Cost per 1,000 wall measure.....	.61	.63	.65	.67	.69	.72

ARTICLE No. 53.

13-INCH WALLS

Brick laid in lime mortar, twenty-one masons, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.17	.18	.20	.22	.23	.25	.27	.28
Cost per 1,000 wall measure.....	.13	.14	.16	.17	.19	.20	.21	.23

(Continued on page 316)

Wages combined.....	\$ 9.00	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50
Cost per 1,000 kiln count.....	.30	.32	.34	.35	.37	.39	.40	.42
Cost per 1,000 wall measure.....	.24	.25	.27	.28	.29	.31	.32	.33
Wages combined.....	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 kiln count.....	.44	.45	.47	.49	.51	.52	.54	.56
Cost per 1,000 wall measure.....	.35	.36	.38	.39	.40	.42	.43	.44
Wages combined.....	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$20.00		
Cost per 1,000 kiln count.....	.57	.59	.61	.62	.64	.68		
Cost per 1,000 wall measure.....	.46	.47	.48	.50	.51	.54		

ARTICLE No. 54.

13-INCH WALLS

Brick laid in Portland cement, twenty-one masons, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.21	.23	.26	.28	.30	.32	.34	.36
Cost per 1,000 wall measure.....	.17	.18	.20	.22	.24	.25	.27	.29
Wages combined.....	\$ 9.00	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50
Cost per 1,000 kiln count.....	.39	.41	.43	.45	.47	.50	.52	.54
Cost per 1,000 wall measure.....	.31	.32	.34	.36	.37	.39	.41	.43

(Continued on page 317)

Wages combined.....	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 kiln count.....	.56	.58	.60	.63	.65	.67	.69	.71
Cost per 1,000 wall measure.....	.44	.46	.48	.50	.51	.53	.55	.56
Wages combined.....	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$20.00		
Cost per 1,000 kiln count.....	.73	.76	.78	.80	.82	.86		
Cost per 1,000 wall measure.....	.58	.60	.62	.63	.65	.68		

ARTICLE No. 55.

13-INCH WALLS

Brick laid in Portland cement, sand and lime or Hydraulic cement and sand, twenty-one masons, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.20	.22	.24	.26	.28	.30	.32	.34
Cost per 1,000 wall measure.....	.16	.17	.19	.20	.22	.24	.25	.27
Wages combined.....	\$ 9.00	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50
Cost per 1,000 kiln count.....	.36	.38	.40	.42	.44	.46	.48	.50
Cost per 1,000 wall measure.....	.28	.30	.32	.33	.35	.36	.38	.40
Wages combined.....	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 kiln count.....	.52	.54	.56	.58	.60	.62	.64	.66
Cost per 1,000 wall measure.....	.41	.43	.44	.46	.48	.49	.51	.52
Cost combined.....	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$20.00		
Wages 1,000 kiln count.....	.68	.70	.72	.74	.76	.80		
Cost per 1,000 wall measure.....	.54	.56	.57	.59	.60	.64		

ARTICLE No. 55.

13-INCH WALLS

Brick laid in lime mortar, twenty-four masons, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.14	.16	.17	.19	.20	.22	.23	.25
Cost per 1,000 wall measure.....	.11	.13	.14	.15	.16	.17	.19	.20
Wages combined.....	\$ 9.00	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.30	\$12.00	\$12.50
Cost per 1,000 kiln count.....	.26	.28	.29	.31	.32	.34	.35	.37
Cost per 1,000 wall measure.....	.21	.22	.23	.25	.26	.27	.28	.29

Wages combined.....	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 kiln count.....	.38	.40	.41	.43	.44	.46	.47	.49
Cost per 1,000 wall measure.....	.30	.32	.33	.34	.35	.36	.38	.39

Wages combined.....	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$20.00		
Cost per 1,000 kiln count.....	.50	.52	.53	.55	.56	.59		
Cost per 1,000 wall measure.....	.40	.41	.42	.44	.45	.47		

ARTICLE No. 56.

13-INCH WALLS

Brick laid in Portland cement, twenty-four masons, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.19	.20	.22	.25	.26	.28	.30	.32
Cost per 1,000 wall measure.....	.15	.17	.18	.20	.21	.23	.25	.26

(Continued on page 319)

ARTICLE No. 56.

13-INCH WALLS

Brick laid in Portland cement, sand and lime or Hydraulic cement and sand, twenty-four masons,
8 hours per day:

Wages combined.....	\$ 9.00	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50
Cost per 1,000 kiln count.....	.34	.36	.38	.40	.42	.44	.46	.48
Cost per 1,000 wall measure.....	.28	.29	.31	.32	.34	.35	.37	.39
Wages combined.....	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 kiln count.....	.50	.51	.53	.55	.57	.59	.61	.63
Cost per 1,000 wall measure.....	.40	.42	.43	.45	.46	.48	.50	.51
Wages combined.....	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$20.00		
Cost per 1,000 kiln count.....	.65	.67	.69	.71	.73	.76		
Cost per 1,000 wall measure.....	.53	.54	.56	.57	.59	.62		
Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.17	.18	.20	.22	.24	.25	.27	.29
Cost per 1,000 wall measure.....	.13	.15	.16	.18	.19	.20	.22	.23
Wages combined.....	\$ 9.00	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50
Cost per 1,000 kiln count.....	.31	.32	.34	.36	.37	.39	.41	.43
Cost per 1,000 wall measure.....	.25	.26	.27	.29	.30	.37	.33	.34

(Continued on page 320)

Wages combined.....	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 kiln count.....	.44	.46	.48	.50	.51	.53	.55	.56
Cost per 1,000 wall measure.....	.36	.37	.38	.40	.41	.43	.44	.45
Wages combined.....	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$20.00		
Cost per 1,000 kiln count.....	.58	.60	.62	.63	.65	.68		
Cost per 1,000 wall measure.....	.47	.48	.50	.51	.52	.55		

ARTICLE No. 57.

SUPERINTENDENT, FOREMAN, TIMEKEEPER, MATERIAL CLERK, WATER CARRIER, ETC., 18-INCH WALLS OR OVER

Brick laid in lime mortar, nine masons, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.33	.36	.40	.43	.46	.50	.53	.56
Cost per 1,000 wall measure.....	.26	.28	.31	.34	.36	.39	.42	.44
Wages combined.....	\$ 9.00	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50
Cost per 1,000 kiln count.....	.60	.63	.66	.70	.73	.76	.80	.83
Cost per 1,000 wall measure.....	.47	.50	.52	.55	.57	.60	.63	.66
Wages combined.....	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 kiln count.....	.86	.90	.93	.96	1.00	1.03	1.06	1.10
Cost per 1,000 wall measure.....	.68	.71	.73	.76	.78	.81	.84	.86
Wages combined.....	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$20.00		

ARTICLE No. 58.

18-INCH WALLS OR OVER

Brick laid in Portland cement mortar, nine masons, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.41	.45	.50	.54	.58	.62	.66	.70
Cost per 1,000 wall measure.....	.33	.36	.40	.43	.46	.50	.53	.56
Wages combined.....	\$ 9.00	\$ 9.50	\$ 10.00	10.50	\$ 11.00	\$ 11.50	\$ 12.00	\$ 12.50
Cost per 1,000 kiln count.....	.75	.79	.83	.87	.91	.95	1.00	1.04
Cost per 1,000 wall measure.....	.60	.63	.66	.70	.73	.76	.80	.83
Wages combined.....	\$ 13.00	\$ 13.50	\$ 14.00	\$ 14.50	\$ 15.00	\$ 15.50	\$ 16.00	\$ 16.50
Cost per 1,000 kiln count.....	1.08	1.12	1.16	1.20	1.25	1.29	1.33	1.37
Cost per 1,000 wall measure.....	.86	.90	.93	.96	1.00	1.03	1.06	1.10
Wages combined.....	\$ 17.00	\$ 17.50	\$ 18.00	\$ 18.50	\$ 19.00	\$ 20.00		
Cost per 1,000 kiln count.....	1.41	1.45	1.50	1.54	1.58	1.66		
Cost per 1,000 wall measure.....	1.13	1.16	1.20	1.23	1.26	1.33		

ARTICLE No. 59.

18-INCH WALLS OR OVER

Brick laid in Portland cement, sand and lime or Hydraulic cement and sand, nine masons, 8 hours

per day:

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.38	.42	.46	.50	.53	.57	.61	.65
Cost per 1,000 wall measure.....	.31	.34	.37	.40	.43	.46	.50	.53

(Continued on page 322)

Wages combined.....	\$ 9.00	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50
Cost per 1,000 kiln count.....	.69	.73	.76	.80	.84	.88	.92	.96
Cost per 1,000 wall measure.....	.56	.59	.62	.65	.68	.71	.75	.78
Wages combined.....	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 kiln count.....	1.00	1.03	1.07	1.11	1.15	1.19	1.23	1.26
Cost per 1,000 wall measure.....	.81	.84	.87	.90	.93	.96	1.00	1.03
Wages combined.....	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$20.00		
Cost per 1,000 kiln count.....	1.30	1.34	1.38	1.42	1.46	1.53		
Cost per 1,000 wall measure.....	1.06	1.09	1.12	1.15	1.18	1.25		

ARTICLE No. 60.

18-INCH WALLS OR OVER

Brick laid in lime mortar, twelve masons, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.23	.26	.28	.30	.33	.35	.38	.40
Cost per 1,000 wall measure.....	.20	.22	.24	.26	.28	.30	.32	.34
Wages combined.....	\$ 9.00	\$ 9.30	\$10.00	\$10.50	\$11.00	\$11.30	\$12.00	\$12.50
Cost per 1,000 kiln count.....	.42	.45	.47	.50	.52	.54	.57	.59
Cost per 1,000 wall measure.....	.36	.38	.40	.42	.44	.46	.48	.50
Wages combined.....	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 kiln count.....	.61	.64	.66	.69	.71	.73	.76	.78
Cost per 1,000 wall measure.....	.52	.54	.56	.58	.60	.62	.64	.66

(Continued on page 323)

Wages combined.....	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$20.00
Cost per 1,000 kiln count.....	.80	.83	.85	.88	.90	.95
Cost per 1,000 wall measure.....	.68	.70	.72	.74	.76	.80

ARTICLE No. 61. 18-INCH WALLS OR OVER

Brick laid in Portland cement mortar, twelve masons, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.32	.35	.38	.41	.45	.48	.51	.54
Cost per 1,000 wall measure.....	.26	.28	.31	.34	.36	.39	.42	.44
Wages combined.....	\$ 9.00	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50
Cost per 1,000 kiln count.....	.58	.61	.64	.67	.70	.74	.77	.80
Cost per 1,000 wall measure.....	.47	.50	.52	.55	.57	.60	.63	.65
Wages combined.....	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 kiln count.....	.83	.87	.90	.93	.96	1.00	1.03	1.06
Cost per 1,000 wall measure.....	.68	.71	.73	.76	.78	.81	.84	.86
Cost combined.....	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$20.00		
Wages 1,000 kiln count.....	1.09	1.12	1.16	1.19	1.22	1.29		
Cost per 1,000 wall measure.....	.89	.92	.94	.97	1.00	1.05		

ARTICLE No. 62.

18-INCH WALLS OR OVER

Per day:
 Brick laid in Portland cement, sand and lime or Hydraulic cement and sand, twelve masons, 8 hours

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.29	.32	.35	.38	.41	.44	.47	.50
Cost per 1,000 wall measure.....	.23	.26	.28	.30	.33	.35	.38	.40
Wages combined.....	\$ 9.00	\$ 9.50	\$ 10.00	\$ 10.50	\$ 11.00	\$ 11.50	\$ 12.00	\$ 12.50
Cost per 1,000 kiln count.....	.52	.55	.58	.61	.64	.67	.70	.73
Cost per 1,000 wall measure.....	.42	.45	.47	.50	.52	.54	.57	.59
Wages combined.....	\$ 13.00	\$ 13.50	\$ 14.00	\$ 14.50	\$ 15.00	\$ 15.50	\$ 16.00	\$ 16.50
Cost per 1,000 kiln count.....	.76	.79	.82	.85	.88	.91	.94	.97
Cost per 1,000 wall measure.....	.61	.64	.66	.69	.71	.73	.76	.78
Wages combined.....	\$ 17.00	\$ 17.50	\$ 18.00	\$ 18.50	\$ 19.00	\$ 20.00		
Cost per 1,000 kiln count.....	1.00	1.02	1.05	1.08	1.11	1.17		
Cost per 1,000 wall measure.....	.80	.83	.85	.88	.90	.95		

ARTICLE No. 63.

18-INCH WALLS OR OVER

Brick laid in lime mortar, fifteen masons, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.19	.21	.23	.25	.26	.28	.30	.32
Cost per 1,000 wall measure.....	.15	.17	.18	.20	.21	.23	.25	.26

(Continued on page 325)

Cost per 1,000 kiln count.....	.34	.36	.38	.40	.42	.44	.46	.48
Cost per 1,000 wall measure.....	.28	.29	.31	.32	.34	.35	.37	.39
Wages combined.....	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 kiln count.....	.50	.51	.53	.55	.57	.59	.61	.63
Cost per 1,000 wall measure.....	.40	.42	.43	.45	.46	.48	.50	.51
Wages combined.....	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$20.00		
Cost per 1,000 kiln count.....	.65	.67	.69	.71	.73	.76		
Cost per 1,000 wall measure.....	.53	.54	.56	.57	.59	.62		

325

ARTICLE No. 64. 18-INCH WALLS OR OVER

Brick laid in Portland cement mortar, fifteen masons, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.25	.27	.30	.32	.35	.37	.40	.42
Cost per 1,000 wall measure.....	.20	.22	.24	.26	.28	.30	.32	.34
Cost combined.....	\$ 9.00	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50
Wages per 1,000 kiln count.....	.45	.47	.50	.52	.55	.57	.60	.62
Cost per 1,000 wall measure.....	.36	.38	.40	.42	.44	.46	.48	.50

(Continued on Page 326)

Wages Combined.....	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 kiln count.....	.65	.67	.70	.72	.75	.77	.80	.82
Cost per 1,000 wall measure.....	.52	.54	.56	.58	.60	.62	.64	.66
Wages combined.....	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$20.00		
Cost per 1,000 kiln count.....	.85	.87	.90	.92	.95	1.00		
Cost per 1,000 wall measure.....	.68	.70	.72	.74	.76	.80		

ARTICLE No. 65.

18-INCH WALLS OR OVER

Brick laid in Portland cement, sand and lime or Hydraulic cement and sand, fifteen masons, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.22	.25	.27	.29	.31	.34	.36	.38
Cost per 1,000 wall measure.....	.18	.20	.22	.24	.25	.27	.29	.31
Wages combined.....	\$ 9.00	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50
Cost per 1,000 kiln count.....	.40	.43	.45	.47	.50	.52	.54	.56
Cost per 1,000 wall measure.....	.33	.35	.37	.38	.40	.42	.44	.46
Wages combined.....	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 kiln count.....	.59	.61	.63	.65	.68	.70	.72	.75
Cost per 1,000 wall measure.....	.48	.50	.51	.53	.55	.57	.59	.61
Wages combined.....	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$20.00		

SUPERINTENDENT, FOREMAN, TIMEKEEPER, MATERIAL CLERK, WATER CARRIER, ETC.
18-INCH WALLS OR OVER

Brick laid in lime mortar, eighteen masons, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.16	.17	.19	.20	.22	.24	.25	.27
Cost per 1,000 wall measure.....	.13	.14	.15	.17	.18	.19	.21	.22
Wages combined.....	\$ 9.00	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50
Cost per 1,000 kiln count.....	.29	.30	.32	.33	.35	.37	.38	.40
Cost per 1,000 wall measure.....	.23	.25	.26	.27	.28	.30	.31	.32
Wages combined.....	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 kiln count.....	.41	.43	.45	.46	.48	.50	.51	.53
Cost per 1,000 wall measure.....	.34	.35	.36	.38	.39	.40	.42	.43
Wages combined.....	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$20.00		
Cost per 1,000 kiln count.....	.54	.56	.58	.59	.61	.64		
Cost per 1,000 wall measure.....	.44	.46	.47	.48	.50	.52		

ARTICLE No. 67.

18-INCH WALLS OR OVER

Brick laid in Portland cement mortar, eighteen masons, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.21	.23	.26	.28	.30	.32	.34	.36
Cost per 1,000 wall measure.....	.17	.18	.20	.22	.24	.25	.27	.29
Wages combined.....	\$ 9.00	\$ 9.50	\$ 10.00	\$ 10.50	\$ 11.00	\$ 11.50	\$ 12.00	\$ 12.50
Cost per 1,000 kiln count.....	.39	.41	.43	.45	.47	.50	.52	.54
Cost per 1,000 wall measure.....	.31	.32	.34	.36	.37	.39	.41	.43

Wages combined.....	\$ 13.00	\$ 13.50	\$ 14.00	\$ 14.50	\$ 15.00	\$ 15.50	\$ 16.00	\$ 16.50
Cost per 1,000 kiln count.....	.56	.58	.60	.63	.65	.67	.69	.71
Cost per 1,000 wall measure.....	.44	.46	.48	.50	.51	.53	.55	.56

Wages combined.....	\$ 17.00	\$ 17.50	\$ 18.00	\$ 18.50	\$ 19.00	\$ 20.00		
Cost per 1,000 kiln count.....	.73	.76	.78	.80	.82	.86		
Cost per 1,000 wall measure.....	.58	.60	.62	.63	.65	.68		

ARTICLE No. 68.

18-INCH WALLS OR OVER

Brick laid in Portland cement, sand and lime or Hydraulic cement and sand, eighteen masons, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.20	.22	.24	.26	.28	.30	.32	.34
Cost per 1,000 wall measure.....	.16	.17	.19	.20	.22	.24	.25	.27

(Continued on Page 329)

Cost per 1,000 kiln count.....	.36	.38	.40	.42	.44	.46	.48	.50
Cost per 1,000 wall measure.....	.29	.30	.32	.33	.35	.37	.38	.40
Wages combined.....	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 kiln count.....	.52	.54	.56	.58	.60	.62	.64	.66
Cost per 1,000 wall measure.....	.41	.43	.45	.46	.48	.50	.51	.53
Wages combined.....	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$20.00		
Cost per 1,000 kiln count.....	.68	.70	.72	.74	.76	.80		
Cost per 1,000 wall measure.....	.54	.56	.58	.59	.61	.64		

ARTICLE No. 69.

18-INCH WALLS OR OVER

Brick laid in lime mortar, twenty-one masons, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.13	.15	.16	.18	.19	.20	.22	.23
Cost per 1,000 wall measure.....	.11	.12	.13	.14	.15	.16	.17	.18
Wages combined.....	\$ 9.00	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50
Cost per 1,000 kiln count.....	.25	.26	.27	.29	.30	.31	.33	.34
Cost per 1,000 wall measure.....	.20	.21	.22	.23	.24	.25	.26	.27
Wages combined.....	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 kiln count.....	.36	.37	.38	.40	.41	.43	.44	.45
Cost per 1,000 wall measure.....	.28	.30	.31	.32	.33	.34	.35	.36

(Continued on Page 330)

Wages combined.....	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$20.00
Cost per 1,000 kiln count.....	.47	.48	.50	.51	.52	.55
Cost Per 1,000 wall measure.....	.37	.38	.40	.41	.42	.44

ARTICLE No. 70.

18-INCH WALLS OR OVER

Brick laid in Portland cement mortar, twenty-one masons, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.17	.19	.21	.23	.25	.26	.28	.30
Cost per 1,000 wall measure.....	.14	.15	.17	.18	.20	.21	.22	.24
Wages combined.....	\$ 9.00	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50
Cost per 1,000 kiln count.....	.32	.33	.35	.37	.39	.41	.42	.44
Cost per 1,000 wall measure.....	.25	.27	.28	.30	.31	.32	.34	.35
Wages combined.....	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 kiln count.....	.46	.48	.50	.51	.53	.55	.57	.59
Cost per 1,000 wall measure.....	.37	.38	.40	.41	.42	.44	.45	.47
Wages combined.....	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$20.00		
Cost per 1,000 kiln count.....	.60	.62	.64	.66	.67	.71		
Cost per 1,000 wall measure.....	.48	.50	.51	.52	.54	.57		

8 hours per day: Brick laid in Portland cement, sand and line or Hydraulic cement and sand, twenty-one masons,

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.16	.18	.20	.21	.23	.25	.26	.28
Cost per 1,000 wall measure.....	.13	.14	.16	.17	.18	.20	.21	.22
Wages combined.....	\$ 9.00	\$ 9.50	\$ 10.00	\$ 10.50	\$ 11.00	\$ 11.50	\$ 12.00	\$ 12.50
Cost per 1,000 kiln count.....	.30	.31	.33	.35	.36	.38	.40	.41
Cost per 1,000 wall measure.....	.24	.25	.27	.28	.29	.31	.32	.33
Wages combined.....	\$ 13.00	\$ 13.50	\$ 14.00	\$ 14.50	\$ 15.00	\$ 15.50	\$ 16.00	\$ 16.50
Cost per 1,000 kiln count.....	.43	.45	.46	.48	.50	.51	.53	.55
Cost per 1,000 wall measure.....	.35	.36	.37	.39	.40	.41	.43	.44
Wages combined.....	\$ 17.00	\$ 17.50	\$ 18.00	\$ 18.50	\$ 19.00	\$ 20.00		
Cost per 1,000 kiln count.....	.56	.58	.60	.61	.63	.66		
Cost per 1,000 wall measure.....	.45	.47	.48	.50	.51	.54		

ARTICLE No. 72.

18-INCH WALLS OR OVER

Brick laid in lime mortar, twenty-four masons, 8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.12	.13	.15	.16	.17	.18	.20	.21
Cost per 1,000 wall measure.....	.10	.11	.12	.13	.14	.15	.16	.17

(Continued on Page 332)

Wages combined.....	\$ 9.00	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50
Cost per 1,000 kiln count.....	.22	.23	.25	.26	.27	.28	.30	.31
Cost per 1,000 wall measure.....	.18	.19	.20	.21	.22	.23	.24	.25
Wages combined.....	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 kiln count.....	.32	.33	.35	.36	.37	.38	.40	.41
Cost per 1,000 wall measure.....	.26	.27	.28	.29	.30	.31	.32	.33
Wages combined.....	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$20.00		
Cost per 1,000 kiln count.....	.42	.43	.45	.46	.47	.50		
Cost per 1,000 wall measure.....	.34	.35	.36	.37	.38	.40		

ARTICLE No. 73.

18-INCH WALLS OR OVER

Brick laid in Portland cement mortar, twenty-four masons, 8 hours per day:

Wages combined.....	\$ 5.00	\$5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.16	.17	.19	.20	.22	.24	.25	.27
Cost per 1,000 wall measure.....	.13	.14	.15	.17	.18	.19	.21	.22
Wages combined.....	\$ 9.00	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50
Cost per 1,000 kiln count.....	.29	.30	.32	.33	.35	.37	.38	.40
Cost per 1,000 wall measure.....	.23	.25	.26	.27	.28	.30	.31	.32

(Continued on Page 333)

Wages combined.....	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 kiln count.....	.41	.43	.45	.46	.48	.50	.51	.53
Cost per 1,000 wall measure.....	.34	.35	.36	.38	.39	.40	.42	.43

Wages combined.....	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$20.00
Cost per 1,000 kiln count.....	.54	.56	.58	.59	.61	.64
Cost per 1,000 wall measure.....	.44	.46	.47	.48	.50	.52

ARTICLE No. 74.

18-INCH WALLS OR OVER

Brick laid in Portland cement, sand and lime or Hydraulic cement and sand, twenty-four masons,
8 hours per day:

Wages combined.....	\$ 5.00	\$ 5.50	\$ 6.00	\$ 6.50	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50
Cost per 1,000 kiln count.....	.14	.16	.17	.19	.20	.22	.23	.25
Cost per 1,000 wall measure.....	.11	.13	.14	.15	.16	.17	.19	.20

Wages combined.....	\$ 9.00	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50
Cost per 1,000 kiln count.....	.26	.28	.29	.31	.32	.34	.35	.37
Cost per 1,000 wall measure.....	.21	.22	.23	.25	.26	.27	.28	.29

Wages combined.....	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50	\$16.00	\$16.50
Cost per 1,000 kiln count.....	.38	.40	.41	.43	.44	.46	.47	.49
Cost per 1,000 wall measure.....	.30	.32	.33	.34	.35	.36	.38	.39

Wages combined.....	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	\$20.00
Cost per 1,000 kiln count.....	.50	.52	.53	.55	.56	.59
Cost per 1,000 wall measure.....	.40	.41	.42	.44	.45	.47

NOTE.—The foregoing prices per superintendent, foreman, timekeeper, material clerk, water carrier, watchman or hoisting engineer, one or more, can be combined at the rate of wages paid, giving the cost per each thousand brick laid in lime mortar, Portland cement mortar with each brick shoved or grouted, or Portland cement, sand and a small proportion of lime putty added to make the mortar work more freely; also Hydraulic or common cement and sand. If the mortar is made of lime and sand with a small proportion of cement added, then take cost tables of brick laid in lime mortar as the cement added will work as freely as if not added. The thickness of walls given are 13 and 18 inches which will give a very good average on cost per thousand brick, even though the walls are some thicker. The cost price is only approximate, but will not vary only a few cents either way, according to the number of masons employed. The handling of the mechanics, etc., has much to do with the cost, but we believe the average day's work per crew of masons are very reasonable. It is not figured on what a mason can do in 8 hours, but is figured what they most likely do throughout the job, averaging each day. The writer wishes to state that it is the intention throughout these works, to give only the average day's work on all branches of trades, not what we have had a mason do on some special piece of work or what we hear of some great day's work. We must strike some average in order to give intelligent bids or prices for the work and at the same time receive a fair price for your work. To find the cost per thousand brick, we assume that we have a brick building to erect; the walls are 9-inch partitions, the exterior walls are mostly 13 inches with a few 18-inch walls. We will take the 18-inch walls to offset the 9-inch in difference of labor cost making it average 13-inch walls. We employ a mason foreman at \$7.00 per 8 hours, a timekeeper at \$2.00 per day, combining these two wages equals \$9.00 per day. The foreman has charge of fifteen masons, the brick are laid in lime mortar; we turn to Article No. 47, which shows

Combined wages of \$9.00 cost per 1,000 kiln count 42 6-7 cents or 34 8-13 cents per 1,000 wall measure. If only the foreman is employed at \$7.00 per day, the same cost table shows 42 14-33 cents kiln count or 34 6-41 cents wall measure per 1,000 brick. If on the same building we employ a superintendent \$7.00, foreman \$6.00, water carrier \$1.00, hoisting engineer \$4.50, say coal, oil, etc., \$1.50, combined wages \$20.00, 13-inch walls on average laid in cement mortar, no lime, twenty-one masons. (See table, Article No. 54) shows at \$20.00 equals 86 22-23 or 87 cents kiln count and 68 28-29 or 69 cents per thousand brick wall measure. If the combined wages amounts to more than \$20.00 which tables show, then add two wages as for example, we will take table, Article No. 54, superintendent \$10.00, foreman \$7.00, timekeeper \$3.00, engineer \$5.00, fuel, oil, etc., \$3.00 equals combined \$28.00, then by table of twice \$14.00 combined which shows 60 20-23 cents plus 60 20-23 cents equals \$1.21 17-23 kiln count or 2 times 48 8-29 cents equals 96 16-29 cents wall measure, with twenty-one masons 13-inch walls as average and brick laid in Portland cement mortar with shoved or grouted work.

FOR LABOR COST LAYING BRICK in various kinds of mortar, different thicknesses of walls at any scale of wages, combined which means mason's helpers, which the latter named generally require, one to one and a half tender to each mason. Add to cost of laying brick, the cost, if any, for superintendent, foreman, timekeeper, material clerk, hoisting or civil engineer, fuel, oil, etc.

ARTICLE No. 75.

Table giving the cost per 1,000 hoisting brick, including mortar, two cage elevators, 8 hours per day; combined for engineer, power, oils, rent or expense of engine, hoist, etc.:

(Continued on Page 336)

Number of Brick Hoisted in 8
Hours, Including Mortar

9-INCH WALLS—LIME MORTAR
BRICK KILN COUNT

	7 000 Brick	10 000 Brick	13 000 Brick	16 000 Brick	20 000 Brick	23 000 Brick	26 000 Brick	30 000 Brick	33 000 Brick
6 Masons	57	64	71	78	85	92	99	106	113
9 Masons	40	45	50	55	60	65	70	75	80
12 Masons	30	34	38	42	46	50	54	58	62
15 Masons	25	28	31	34	37	40	43	46	49
18 Masons	21	23	25	27	30	32	34	36	38
21 Masons	17	19	21	23	25	27	29	31	33
24 Masons	15	17	19	21	23	25	27	29	31
27 Masons	13	15	17	19	21	23	25	27	29
30 Masons	12	13	15	16	18	20	21	23	25

WAGES COMBINED

	\$4.00	\$4.50	\$5.00	\$5.50	\$6.00	\$6.50	\$7.00	\$7.50	\$8.00	\$8.50	\$9.00	\$9.50	\$10.00	\$10.50	\$11.00
6 Masons	57	64	71	78	85	92	99	106	113	120	127	134	141	148	155
9 Masons	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110
12 Masons	30	34	38	42	46	50	54	58	62	66	70	74	78	82	86
15 Masons	25	28	31	34	37	40	43	46	50	53	56	59	62	65	68
18 Masons	21	23	25	27	30	32	34	36	38	40	42	44	46	48	50
21 Masons	17	19	21	23	25	27	29	31	33	35	37	39	41	43	45
24 Masons	15	17	19	21	23	25	27	29	31	33	35	37	39	41	43
27 Masons	13	15	17	19	21	23	25	27	29	31	33	35	37	39	41
30 Masons	12	13	15	16	18	20	21	23	25	26	28	30	31	33	35

ARTICLE No. 76.

	9 000 Brick	13 000 Brick	17 000 Brick	21 000 Brick	25 000 Brick	30 000 Brick	34 000 Brick
6 Masons	44	50	55	61	66	72	77
9 Masons	30	34	38	42	46	50	53
12 Masons	23	26	29	32	35	38	41
15 Masons	19	21	23	26	28	30	33
18 Masons	16	18	20	22	24	26	28
21 Masons	13	15	16	18	20	21	23
24 Masons	11	13	14	16	17	19	20

13-INCH WALLS—LIME MORTAR

	9 000 Brick	13 000 Brick	17 000 Brick	21 000 Brick	25 000 Brick	30 000 Brick	34 000 Brick
6 Masons	44	50	55	61	66	72	77
9 Masons	30	34	38	42	46	50	53
12 Masons	23	26	29	32	35	38	41
15 Masons	19	21	23	26	28	30	33
18 Masons	16	18	20	22	24	26	28
21 Masons	13	15	16	18	20	21	23
24 Masons	11	13	14	16	17	19	20

ARTICLE No. 77.

	10 000 Brick	15 000 Brick	20 000 Brick	25 000 Brick	30 000 Brick	35 000 Brick
6 Masons	40	45	50	55	60	65
9 Masons	26	30	33	36	40	43
12 Masons	20	22	25	27	30	32
15 Masons	16	18	20	22	24	26
18 Masons	13	15	16	18	20	21
21 Masons	11	12	14	15	17	18

18-INCH WALLS—LIME MORTAR

	10 000 Brick	15 000 Brick	20 000 Brick	25 000 Brick	30 000 Brick	35 000 Brick
6 Masons	40	45	50	55	60	65
9 Masons	26	30	33	36	40	43
12 Masons	20	22	25	27	30	32
15 Masons	16	18	20	22	24	26
18 Masons	13	15	16	18	20	21
21 Masons	11	12	14	15	17	18

ARTICLE No. 78.

	11 000 Brick	17 000 Brick	23 000 Brick	29 000 Brick	34 000 Brick
6 Masons	36	40	45	50	54
9 Masons	23	26	29	32	35
12 Masons	17	19	21	23	26
15 Masons	13	15	17	18	20
18 Masons	11	13	14	16	17

22-INCH WALLS OR THICKER—LIME MORTAR

	11 000 Brick	17 000 Brick	23 000 Brick	29 000 Brick	34 000 Brick
6 Masons	36	40	45	50	54
9 Masons	23	26	29	32	35
12 Masons	17	19	21	23	26
15 Masons	13	15	17	18	20
18 Masons	11	13	14	16	17

NOTE.—THE FOREGOING PRICE ON ELEVATING BRICK AND MORTAR TO LAY SAME. The distance of hoist is not over 75 feet. We may say an ordinary four or five-story building. For every 12 feet additional, deduct 500 brick per day's work from the above tables. It is understood to hoist the number of brick to supply the number of masons as shown. The tenders are to supply the elevators as rapidly as possible; the engineer is supposed to hurry the full 8 hours. One tender should be stationed at the lower cage to load or unload empty barrows; also a tender at the top landing to give signals, etc. If the walls are 18 inches, the engineer's wages are \$5.00 and fuel, etc., costs \$2.00 combined \$7.00. By table, say eighteen masons, shows cost per 1,000, 23½ cents, including mortar.

ARTICLE NO. 79.

Table giving the cost per 1,000 hoisting brick, including the mortar, two cage elevator; wages combined for engineer, fuel, oil, etc., rent or expense of engine, hoist, etc., 8 hours per day:

Number of Brick Hoisted in 8 Hours, Including Mortar		9-INCH WALLS—BRICK LAID IN PORTLAND CEMENT, SHOVED OR GROUTED WORK														
No. Masons	No. Brick	WAGES COMBINED														
6 Masons	6,000 Brick	\$4.00	\$4.50	\$5.00	\$5.50	\$6.00	\$6.50	\$7.00	\$7.50	\$8.00	\$8.50	\$9.00	\$9.50	\$10.00	\$10.50	\$11.00
9 Masons	9,000 Brick	.66	.75	.83	.91	1.00	1.08	1.16	1.25	1.33	1.41	1.50	1.58	1.66	1.75	1.83
12 Masons	12,000 Brick	.44	.50	.55	.61	.66	.72	.77	.83	.88	.94	1.00	1.05	1.11	1.16	1.22
15 Masons	15,000 Brick	.33	.37	.41	.45	.50	.54	.58	.62	.66	.70	.75	.79	.83	.87	.91
18 Masons	18,000 Brick	.26	.30	.33	.36	.40	.43	.47	.50	.53	.56	.60	.63	.66	.70	.73
21 Masons	21,000 Brick	.22	.25	.27	.30	.33	.36	.38	.41	.44	.47	.50	.52	.55	.58	.61
24 Masons	24,000 Brick	.19	.21	.23	.26	.28	.30	.33	.35	.38	.40	.42	.45	.47	.50	.52
27 Masons	27,000 Brick	.16	.18	.20	.22	.25	.27	.29	.31	.33	.35	.37	.39	.41	.43	.45
30 Masons	30,000 Brick	.14	.16	.18	.20	.22	.24	.25	.27	.29	.31	.33	.35	.37	.38	.40
33 Masons	33,000 Brick	.13	.15	.16	.18	.20	.21	.23	.25	.26	.28	.30	.31	.33	.35	.36
36 Masons	36,000 Brick	.12	.13	.15	.16	.18	.19	.21	.22	.24	.25	.27	.28	.30	.31	.33

Tables giving cost per thousand; Hoisting brick, including two cage elevator, wages combined for engineer, fuel, oil, etc., rent or expense of engineer, hoist etc., 8 hours per day. Wages combined. Brick laid in cement mortar shoved or grouted joints, 13-inch walls.

ARTICLE No. 80.		\$4.00	\$4.50	\$5.00	\$5.50	\$6.00	\$6.50	\$7.00	\$7.50	\$8.00	\$8.50	\$9.00	\$9.50	\$10.00	\$10.50	\$11.00
6 Masons	7,000 Brick	.57	.64	.71	.78	.87	.92	1.00	1.07	1.14	1.21	1.28	1.35	1.42	1.50	1.57
9 Masons	10,000 Brick	.40	.45	.50	.55	.60	.65	.70	.75	.80	.85	.90	.95	1.00	1.05	1.10
12 Masons	13,000 Brick	.30	.34	.38	.42	.46	.50	.53	.57	.61	.65	.69	.73	.76	.80	.84
15 Masons	16,000 Brick	.25	.28	.31	.34	.37	.40	.43	.46	.50	.53	.56	.59	.62	.65	.68
18 Masons	20,000 Brick	.20	.22	.25	.27	.30	.32	.35	.37	.40	.42	.45	.47	.50	.52	.55
21 Masons	23,000 Brick	.17	.19	.21	.23	.26	.28	.30	.32	.34	.36	.39	.41	.43	.45	.47
24 Masons	26,000 Brick	.15	.17	.19	.21	.23	.25	.26	.28	.30	.32	.34	.36	.38	.40	.42
27 Masons	30,000 Brick	.13	.15	.16	.18	.20	.21	.23	.25	.26	.28	.30	.31	.33	.35	.36
30 Masons	33,000 Brick	.12	.13	.15	.16	.18	.19	.21	.22	.24	.25	.27	.28	.30	.31	.33
ARTICLE No. 81.		18-INCH WALLS—PORTLAND CEMENT MORTAR, SHOVED OR GROUTED WORK														
6 Masons	8,000 Brick	.50	.56	.62	.68	.75	.81	.87	.93	1.00	1.06	1.12	1.18	1.25	1.31	1.37
9 Masons	12,000 Brick	.33	.37	.41	.45	.50	.54	.58	.62	.66	.70	.75	.79	.83	.87	.91
12 Masons	16,000 Brick	.25	.28	.31	.34	.37	.40	.43	.46	.50	.53	.56	.59	.62	.65	.68
15 Masons	19,000 Brick	.21	.23	.26	.28	.31	.34	.36	.39	.42	.44	.47	.50	.52	.55	.57
18 Masons	24,000 Brick	.16	.18	.20	.22	.25	.27	.29	.31	.33	.35	.37	.39	.41	.43	.45
21 Masons	28,000 Brick	.14	.16	.17	.19	.21	.23	.25	.26	.28	.30	.32	.33	.35	.37	.39
24 Masons	32,000 Brick	.12	.14	.15	.17	.18	.20	.21	.23	.25	.26	.28	.29	.31	.32	.34
ARTICLE No. 82.		22-INCH WALLS OR OVER—PORTLAND CEMENT SHOVED GROUTED														
6 Masons	9,000 Brick	.44	.50	.55	.61	.66	.72	.77	.83	.88	.94	1.00	1.05	1.11	1.16	1.22
9 Masons	13,000 Brick	.30	.34	.38	.42	.46	.50	.53	.57	.61	.65	.69	.73	.76	.80	.84
12 Masons	17,000 Brick	.23	.26	.29	.32	.35	.38	.41	.44	.47	.50	.52	.55	.58	.61	.64
15 Masons	20,000 Brick	.20	.22	.25	.27	.30	.32	.35	.37	.40	.42	.45	.47	.50	.52	.55
18 Masons	25,000 Brick	.16	.18	.20	.22	.24	.26	.28	.30	.32	.34	.36	.38	.40	.42	.44
21 Masons	29,000 Brick	.13	.15	.17	.18	.20	.22	.24	.25	.27	.29	.31	.32	.34	.36	.37
24 Masons	33,000 Brick	.12	.13	.15	.16	.18	.19	.21	.22	.24	.25	.27	.28	.30	.31	.33

ARTICLE No. 83

Table giving the cost per thousand; Hoisting brick, including the mortar, two cage elevator, wages combined for engineer, fuel, oil, etc., rent or expense of engineer, hoist, etc., 8 hours per day. Wages combined. Brick laid in Portland cement, sand or lime or hydraulic or common cement and sand, 13-inch walls.

Number of Brick Hoisted in 8 Hours, Including Mortar		BRICK LAID IN PORTLAND CEMENT, SAND AND LIME OR HYDRAULIC OR COMMON CEMENT AND SAND—13-INCH WALLS														
No. Masons	No. Brick	WAGES COMBINED														
6 Masons	8,000 Brick	\$4.00	\$4.50	\$5.00	\$5.50	\$6.00	\$6.50	\$7.00	\$7.50	\$8.00	\$8.50	\$9.00	\$9.50	\$10.00	\$10.50	\$11.00
9 Masons	11,000 Brick	.50	.56	.62	.68	.75	.81	.87	.93	1.00	1.06	1.12	1.18	1.25	1.31	1.37
12 Masons	15,000 Brick	.36	.40	.45	.50	.54	.59	.63	.68	.72	.77	.81	.86	.90	.95	1.00
15 Masons	18,000 Brick	.26	.30	.33	.36	.40	.43	.47	.50	.53	.56	.60	.63	.66	.70	.73
18 Masons	22,000 Brick	.22	.25	.27	.30	.33	.36	.38	.41	.44	.47	.50	.52	.55	.58	.61
21 Masons	25,000 Brick	.18	.20	.22	.25	.27	.29	.31	.34	.36	.38	.40	.43	.45	.47	.50
24 Masons	29,000 Brick	.16	.18	.20	.22	.24	.26	.28	.30	.32	.34	.36	.38	.40	.42	.44
27 Masons	32,000 Brick	.13	.15	.17	.18	.20	.22	.24	.25	.27	.29	.31	.32	.34	.36	.37
		.12	.14	.15	.17	.18	.20	.21	.23	.25	.26	.28	.29	.31	.32	.34
ARTICLE No. 84.		18-INCH WALLS—PORTLAND CEMENT, SAND AND LIME OR HYDRAULIC OR COMMON CEMENT AND SAND														
6 Masons	9,000 Brick	.44	.50	.55	.61	.66	.72	.77	.83	.88	.94	1.00	1.05	1.11	1.16	1.22
9 Masons	13,000 Brick	.30	.34	.38	.42	.46	.50	.53	.57	.61	.65	.69	.73	.76	.80	.84
12 Masons	17,000 Brick	.23	.26	.29	.32	.35	.38	.41	.44	.47	.50	.52	.55	.58	.61	.64
15 Masons	21,000 Brick	.19	.21	.23	.26	.28	.30	.33	.35	.38	.40	.42	.45	.47	.50	.52
18 Masons	25,000 Brick	.16	.18	.20	.22	.24	.26	.28	.30	.32	.34	.36	.38	.40	.42	.44
21 Masons	29,000 Brick	.13	.15	.17	.18	.20	.22	.24	.25	.27	.29	.31	.32	.34	.36	.37
24 Masons	33,000 Brick	.12	.13	.15	.16	.18	.19	.21	.22	.24	.25	.27	.28	.30	.31	.33
ARTICLE No. 85.		22-INCH WALLS OR OVER—PORTLAND CEMENT, SAND AND LIME OR HYDRAULIC OR COMMON CEMENT AND SAND														
6 Masons	10,000 Brick	.40	.45	.50	.55	.60	.65	.70	.75	.80	.85	.90	.95	1.00	1.05	1.10
9 Masons	14,000 Brick	.28	.32	.35	.39	.42	.46	.50	.53	.57	.60	.64	.67	.71	.75	.78
12 Masons	19,000 Brick	.21	.23	.26	.28	.31	.34	.36	.39	.42	.44	.47	.50	.52	.55	.57
15 Masons	24,000 Brick	.16	.18	.20	.22	.25	.27	.29	.31	.33	.35	.37	.39	.41	.43	.45
18 Masons	29,000 Brick	.13	.15	.17	.18	.20	.22	.24	.25	.27	.29	.31	.32	.34	.36	.37
21 Masons	33,000 Brick	.12	.13	.15	.16	.18	.19	.21	.22	.24	.25	.27	.28	.30	.31	.33

EXAMPLE.—We have 800,000 brick to hoist; the walls are 18-inches, laid in Portland cement sand and enough lime putty added to make mortar work freely. By article number 84 we pay the engineer \$5.00; fuel etc., cost \$2.00 combined \$7.00. We will work 18 brick masons which shows in table 25,000 brick. Tracing to the right to \$7.00 column shows the cost per 1000 brick including the mortar, 28 cts. times 800,000 brick equals \$224.00 or 32 working days for the engineer and 18 masons to lay the 800,000 brick. The costs, etc., given are only approximate, but we believe the difference is very slight and close enough to be safe in making an estimate, which must be added to labor, cost of laying brick that has to be elevated. If we employ a mason foreman at \$7.00 per day, and he has charge of 18 masons, it costs 28 cents per thousand brick extra for his services or for 32 days actual work with 18 masons will cost \$224.00; see table, supt, foreman, etc., article number 68. If the mason wages are \$5.50 and tenders, \$3.00 and 1¼ labor to each mason, equals \$3.75 plus \$5.50 combined \$8.75. Then by article number 24, shows at \$8.75 equals \$6.25 per 1000 brick kiln count. Adding the three costs, engineer, foreman, labor laying brick, 28 cents plus 28 cents plus \$6.25 equals \$6.81 per thousand kiln count.

ARTICLE No. 86

MATERIAL, COST PER 1000 BRICK; LIME

Cost of lime per bushel or barrel, delivered at building, Also the cost of lime per each 1000 brick, kiln count or wall measure, ordinary work, spread joints.

Cost per bushel.....	\$.20	\$.21	\$.22	\$.23	\$.24	\$.25	\$.26
Cost per 1000 brick kiln count.....	\$.60	\$.63	\$.66	\$.69	\$.72	\$.75	\$.78
Cost per 1000 brick wall measure....	\$.47½	\$.49½	\$.52¼	\$.54½	\$.57	\$.59½	\$.61¾
Cost per bushel.....	\$.27	\$.28	\$.29	\$.30	\$.31	\$.32	\$.33
Cost per 1000 brick kiln count.....	\$.81	\$.84	\$.87	\$.90	\$.93	\$.96	\$.99
Cost per 1000 brick wall measure....	\$.64½	\$.66½	\$.68½	\$.71¼	\$.73½	\$.76	\$.78¾

(Continued on Page 341)

Cost per barrel, 3 bushel.....	\$.60	\$.63	\$.66	\$.69	\$.72	\$.75	\$.78
Cost per 1000 brick kiln count.....	\$.60	\$.63	\$.66	\$.69	\$.72	\$.75	\$.78
Cost per 1000 brick wall measure.....	\$.47½	\$.49½	\$.52¼	\$.54½	\$.57	\$.59½	\$.61¼
Cost per barrel, 3 bushel.....	\$.81	\$.84	\$.87	\$.90	\$.93	\$.96	\$.99
Cost per 1000 brick kiln count.....	\$.81	\$.84	\$.87	\$.90	\$.93	\$.96	\$.99
Cost per 1000 brick wall measure.....	\$.64½	\$.66½	\$.68½	\$.71¼	\$.73½	\$.76	\$.78½

NOTE.—There is a vast difference in limes, we have figured the cost per 1000 on the basis of 3 bushel or 1 barrel per each 1000 brick kiln count, some lime dealers sell 2½ bushel per barrel. I have used very fine grade of limes that 2½ bushel would make a good mortar and lay 1000 actual brick, but as a rule we are not safe to figure much less than 3 bushel per 1000 brick kiln count, unless you deal in one kind of lime and know just how far it will go per 100 brick.

ARTICLE No. 87

SAND FOR BRICK MORTAR, ORDINARY WORK, SPREAD JOINTS

Cost of sand per cubic yard, 27 cubic feet, delivered at building, also cost per 1000 brick.

Cost per cubic yard.....	\$ 1.00	\$ 1.05	\$ 1.10	\$ 1.15	\$ 1.20	\$ 1.25	\$ 1.30	\$ 1.35
Cost per 1000 brick kiln count.....	.62½	.65%	.68¾	.71½	.75	.78½	.81¼	.84¾
Cost per 1000 brick wall measure...	.50	.52½	.55	.57½	.60	.62½	.65	.67½
Cost per cubic yard.....	\$ 1.40	\$ 1.45	\$ 1.50	\$ 1.75	\$ 2.00	\$ 2.25	\$ 2.50	
Cost per 1000 brick kiln count.....	.87½	.90%	.93¾	1.09%	1.25	1.40%	1.56¼	
Cost per 1000 brick wall measure...	.70	.72½	.75	.87½	1.00	1.12½	1.25	

For sand hauling, see sand hauling.

ARTICLE No. 88

PORTLAND CEMENT FOR LAYING ORDINARY WORK

Mixture: One part cement and two parts sand.

Cost per barrel delivered.....	\$ 1.50	\$ 1.55	\$ 1.60	\$ 1.65	\$ 1.70	\$ 1.75	\$ 1.80
Cost per 1000 brick kiln count.....	3.00	3.10	3.20	3.30	3.40	3.50	3.60
Cost per 1000 brick wall measure....	2.25	2.32½	2.40	2.47½	2.55	2.62½	2.70
Cost per barrel delivered.....	\$ 1.85	\$ 1.90	\$ 1.95	\$ 2.00	\$ 2.10	\$ 2.25	\$ 2.50
Cost per 1000 brick kiln count.....	3.70	3.80	3.90	4.00	4.20	4.50	5.00
Cost per 1000 brick wall measure....	2.77½	2.85	2.92½	3.00	3.15	3.37½	3.75

ARTICLE No. 89

PORTLAND CEMENT FOR ORDINARY WORK

Mixture: One part cement and three parts sand.

Cost per barrel delivered.....	\$ 1.50	\$ 1.55	\$ 1.60	\$ 1.65	\$ 1.70	\$ 1.75	\$ 1.80
Cost per 1000 brick kiln count.....	2.25	2.32	2.40	2.47	2.55	2.62	2.70
Cost per 1000 brick wall measure....	1.68	1.74	1.80	1.85	1.91	1.96	2.02
Cost per barrel delivered.....	\$ 1.85	\$ 1.90	\$ 1.95	\$ 2.00	\$ 2.10	\$ 2.25	\$ 2.50
Cost per 1000 brick kiln count.....	2.77	2.85	2.92	3.00	3.15	3.37	3.75
Cost per 1000 brick wall measure....	2.08	2.13	2.19	2.25	2.36	2.53	2.81

ARTICLE No. 90

PORTLAND CEMENT FOR ORDINARY WORK

Mixture: One part cement and four parts sand.

Cost per barrel delivered.....	\$ 1.50	\$ 1.55	\$ 1.60	\$ 1.65	\$ 1.70	\$ 1.75	\$ 1.80
Cost per 1000 brick kiln count.....	1.68	1.74	1.80	1.85	1.91	1.96	2.02
Cost per 1000 brick wall measure....	1.21	1.25	1.30	1.34	1.38	1.42	1.46
Cost per barrel delivered.....	\$ 1.85	\$ 1.90	\$ 1.95	\$ 2.00	\$ 2.10	\$ 2.25	\$ 2.50
Cost per 1000 brick kiln count.....	2.08	2.13	2.19	2.25	2.36	2.53	2.81
Cost per 1000 brick wall measure....	1.50	1.54	1.58	1.62	1.70	1.82	2.03

343

CEMENT HAULING

If cement has to be hauled by wagons, see Articles 91-92-93-94-95 and 96.

ARTICLE No. 91

HYDRAULIC OR COMMON CEMENT, ORDINARY WORK

Mixture: One part cement and two parts sand.

Cost per barrel delivered.....	\$.75	\$.80	\$.85	\$.90	\$.95	\$ 1.00	\$ 1.05	\$ 1.10
Cost per 1000 brick kiln count.....	1.50	1.60	1.70	1.80	1.90	2.00	2.10	2.20
Cost per 1000 brick wall measure....	1.12½	1.20	1.27½	1.35	1.42½	1.50	1.57½	1.65
Cost per barrel delivered.....	\$ 1.15	\$ 1.20	\$ 1.25	\$ 1.30	\$ 1.35	\$ 1.40	\$ 1.50	
Cost per 1000 brick kiln count.....	2.30	2.40	2.50	2.60	2.70	2.80	3.00	
Cost per 1000 brick wall measure....	1.72½	1.80	1.87½	1.95	2.02½	2.10	2.25	

HYDRAULIC OR COMMON CEMENT, ORDINARY WORK

Mixture: One part cement and three parts sand.

Cost per barrel delivered.....	\$.75	\$.80	\$.85	\$.90	\$.95	\$ 1.00	\$ 1.05	\$ 1.10
Cost per 1000 brick kiln count.....	1.12½	1.20	1.27½	1.35	1.42½	1.50	1.57½	1.65
Cost per 1000 brick wall measure...	.84¾	.90	.95¾	1.01¼	1.06¾	1.12½	1.18¾	1.24¾
Cost per barrel delivered.....	\$ 1.15	\$ 1.20	\$ 1.25	\$ 1.30	\$ 1.35	\$ 1.40	\$ 1.50	
Cost per 1000 brick kiln count.....	1.72½	1.80	1.87½	1.95	2.02½	2.10	2.25	
Cost per 1000 brick wall measure...	1.29¾	1.35	1.40¾	1.46¼	1.51¾	1.57¾	1.68¾	

ARTICLE No. 93

COST OF COMMON BUILDING BRICK, DELIVERED AT BUILDING, STANDARD SIZE 2¼ by 8¼ by 4 INCHES.

Cost per 1000 brick delivered.....	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75
Cost per 1000 brick kiln count.....	6.00	6.25	6.50	6.75	7.00	7.25	7.50	7.75
Cost per 1000 brick wall measure...	4.80	5.00	5.20	5.40	5.60	6.80	6.00	6.20
Cost per 1000 brick delivered.....	\$ 8.00	\$ 8.25	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 10.00
Cost per 1000 brick kiln count.....	8.00	8.25	8.50	8.75	9.00	9.25	9.50	10.00
Cost per 1000 brick wall measure...	6.40	6.60	6.80	7.00	7.20	7.40	7.60	8.00

COST OF FACE BRICK DELIVERED AT BUILDING, STANDARD SIZE, 2 $\frac{3}{8}$ by 8 $\frac{1}{4}$ by 4 INCHES.

Cost per 1000 brick delivered.....	\$ 10.00	\$ 10.25	\$ 10.50	\$ 10.75	\$ 11.00	\$ 11.25	\$ 11.50	\$ 11.75
Cost per 1000 brick kiln count.....	10.00	10.25	10.50	10.75	11.00	11.25	11.50	11.75
Cost per 1000 brick wall measure...	9.50	9.73	9.97	10.21	10.45	10.68	10.92	11.16
Cost per 1000 brick delivered.....	\$ 12.00	\$ 12.25	\$ 12.50	\$ 12.75	\$ 13.00	\$ 13.25	\$ 13.50	\$ 13.75
Cost per 1000 brick kiln count.....	12.00	12.25	12.50	12.75	13.00	13.25	13.50	13.75
Cost per 1000 brick wall measure...	11.40	11.63	11.87	12.11	12.35	12.58	12.82	13.06
Cost per 1000 brick delivered.....	\$ 14.00	\$ 14.25	\$ 14.50	\$ 14.75	\$ 15.00	\$ 15.25	\$ 15.50	\$ 15.75
Cost per 1000 brick kiln count.....	14.00	14.25	14.50	14.75	15.00	15.25	15.50	15.75
Cost per 1000 brick wall measure...	13.30	13.53	13.77	14.01	14.25	14.48	14.72	14.96
Cost per 1000 brick delivered.....	\$ 16.00	\$ 16.25	\$ 16.50	\$ 16.75	\$ 17.00	\$ 17.25	\$ 17.50	\$ 17.75
Cost per 1000 brick kiln count.....	16.00	16.25	16.50	16.75	17.00	17.25	17.50	17.75
Cost per 1000 brick wall measure...	15.20	15.43	15.67	15.91	16.15	16.38	16.62	16.86
Cost per 1000 brick delivered.....	\$ 18.00	\$ 18.25	\$ 18.50	\$ 18.75	\$ 19.00	\$ 19.25	\$ 19.50	\$ 19.75
Cost per 1000 brick kiln count.....	18.00	18.25	18.50	18.75	19.00	19.25	19.50	19.75
Cost per 1000 brick wall measure...	17.10	17.33	17.57	17.81	18.05	18.28	18.52	18.76

(Continued on Page 346)

Cost	Per 1000 brick delivered	\$ 20.00	\$ 20.25	\$ 20.50	\$ 20.75	\$ 21.00	\$ 21.25	\$ 21.50	\$ 21.75
Cost	Per 1000 brick kiln count	20.00	20.25	20.50	20.75	21.00	21.25	21.50	21.75
Cost	Per 1000 brick wall measure	19.00	19.23	19.47	19.71	19.95	20.18	20.42	20.66
Cost	Per 1000 brick delivered	\$ 22.00	\$ 22.25	\$ 22.50	\$ 22.75	\$ 23.00	\$ 23.25	\$ 23.50	\$ 23.75
Cost	Per 1000 brick kiln count	22.00	22.25	22.50	22.75	23.00	23.25	23.50	23.75
Cost	Per 1000 brick wall measure	20.90	21.13	21.37	21.61	21.85	22.08	22.32	22.56
Cost	Per 1000 brick delivered	\$ 24.00	\$ 24.25	\$ 24.50	\$ 25.00	\$ 25.50	\$ 26.00	\$ 26.50	\$ 27.00
Cost	Per 1000 brick kiln count	24.00	24.25	24.50	25.00	25.50	26.00	26.50	27.00
Cost	Per 1000 brick wall measure	22.80	23.03	23.27	23.75	24.22	24.70	25.17	25.65

For brick hauling.

FIGURING SIZES OF VARIOUS BRICK PER SQUARE OR SUPERFICIAL FOOT

English soap or other brick	3 inches by 9 inches by 3 or 4 inches in width.	5½ brick per square foot, wall measure
Flat brick	4½ inches by 9 inches by 2 or 3 inches in width	33-5 brick per square foot, wall measure
Roman	1½ inches by 11½ inches by 4 inches in width	7 brick per square foot, wall measure
Roman flats	4 inches by 12 inches by 1½ inches in width	3 brick per square foot, wall measure
Standard sizes	2¾ inches by 8½ inches by 4 inches in width	7 brick per square foot, wall measure

PURCHASING BRICK

Table of number of brick in wall measure of different thicknesses computing the following scale per superficial foot.

Thicknesses of walls 4½ inch wall, half brick per superficial foot	7 bricks
Thicknesses of walls 9 inch wall, one brick per superficial foot	14 bricks
Thicknesses of walls 13 inch wall, one and one-half brick per superficial foot	21 bricks
Thicknesses of walls 18 inch wall, two bricks per superficial foot	28 bricks
Thicknesses of walls 22 inch wall, two and one-half brick per superficial foot	35 bricks
Thicknesses of walls 26 inch wall, three bricks per superficial foot	42 bricks
Thicknesses of walls 30 inch wall, three and one-half brick per superficial foot	49 bricks
Thicknesses of walls 35 inch wall, four bricks per superficial foot	56 bricks
Thicknesses of walls 39 inch wall, four and one-half brick per superficial foot	63 bricks
Thicknesses of walls 44 inch wall, five brick per superficial foot	70 bricks

Add seven bricks additional for each half brick added to thickness of walls when walls are solid not counting openings figuring as the foregoing table gives. It gives the number of brick, wall measure, which includes the mortar they are laid in. To get the actual brick from the wall measure, a certain per cent has to be deducted for the brick kiln count, when brick walls are laid up with spread bed joints ½ to ⅝ thick and the be deducted of a standard size 2¼ by 8½ by 4 or equivalent in superfiery inches, then deduct 20% to 25% for brick brick, or 75 to 80% of wall measure for kiln count. If a wall measures 1,000 brick at 75%, 10 times actual is 750 actual brick. If at 80%, 80 times 10 equals 800 brick actual for each 1,000 brick, wall measure.

For brick work, estimate as the foregoing table shows; the per cent will run 90 to 95 or 900 to 950 actual brick will build a wall measuring 1,000 wall count. Face brick are usually made 1-16 to 1-8 inch thicker than the common brick at least this is the case when the manufacturer makes each kind of brick, the difference shown in bed joints are made up in the brick the common brick are tied in with the face brick at the same time. The face brick joints are much smaller, the less percentage on face work is calculated on more or less wastage of brick, because of the edges or corners being broken, and cutting of arches etc.

NOTE.—In some states, brick are figured at $7\frac{1}{2}$ brick per each foot superficial.

Thickness of walls	$4\frac{1}{2}$ inch walls, half brick per superficial foot	$7\frac{1}{2}$ brick
Thickness of walls	9 inch walls, one brick per superficial foot	15 brick
Thickness of walls	13 inch walls, one and one-half brick per superficial foot	$22\frac{1}{2}$ brick
Thickness of walls	18 inch walls, two bricks per superficial foot	30 brick
Thickness of walls	22 inch walls, two and one-half brick per superficial foot	$37\frac{1}{2}$ brick
Thickness of walls	26 inch walls, three bricks per superficial foot	45 brick
Thickness of walls	30 inch walls, three and one-half brick per superficial foot	$52\frac{1}{2}$ brick
Thickness of walls	35 inch walls, four brick per superficial foot	60 brick

Adding $7\frac{1}{2}$ brick for each half brick to thickness of walls.

superficial foot or 21 bricks per cubic foot:

Superficies of Wall		THICKNESS OF WALLS									
		4½ In. or ½ Brick	9 In. or 1 Brick	13 In. or 1½ Bricks	18 In. or 2 Bricks	22 In. or 2½ Bricks	26 In. or 3 Bricks	30 In. or 3½ Bricks	35 In. or 4 Bricks	39 In. or 4½ Bricks	44 In. or 5 Bricks
Feet	Inches										
0	6	3½	7	10½	14	17½	21	24½	28	31½	35
1	0	7	14	21	28	35	42	49	56	63	70
1	6	10½	21	31½	42	52½	63	73½	84	94½	105
2	0	14	28	42	56	70	84	98	112	126	140
2	6	17½	35	57½	70	87½	105	122½	140	157½	175
3	0	21	42	63	84	105	126	147	168	189	210
3	6	24½	49	73½	98	122½	147	171½	196	220½	245
4	0	28	56	84	112	140	168	196	224	252	280
4	6	31½	63	94½	126	157½	189	220½	252	283½	315
5	0	35	70	105	140	175	210	245	280	315	350
5	6	38½	77	115½	154	192½	231	269½	308	346½	385
6	0	42	84	126	168	210	252	294	336	378	420

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600

6	45½	91	136½	182	227½	273	318½	364	409½	455
7	49	98	147	196	245	294	343	392	441	490
7	52½	105	157½	210	262½	315	367½	420	472½	525
8	56	112	168	224	280	336	392	448	504	560
8	59½	119	178½	238	297½	357	416	476	535½	595
9	63	126	189	252	315	378	441	504	567	630
9	66½	133	199½	266	332½	399	465½	532	598½	665
10	70	140	210	280	350	420	490	560	630	700
15	105	210	315	420	525	630	735	840	945	1,050
20	140	280	420	560	700	840	980	1,120	1,260	1,400
30	210	420	630	840	1,050	1,260	1,470	1,680	1,890	2,100
40	280	560	840	1,120	1,400	1,680	1,960	2,240	2,520	2,800
50	350	700	1,050	1,400	1,750	2,100	2,450	2,800	3,150	3,500
60	420	840	1,260	1,680	2,100	2,520	2,940	3,360	3,780	4,200
70	490	980	1,470	1,960	2,450	2,940	3,430	3,920	4,410	4,900
80	560	1,120	1,680	2,240	2,800	3,360	3,920	4,480	5,040	5,600
90	630	1,260	1,890	2,520	3,150	3,780	4,410	5,040	5,670	6,300
100	700	1,400	2,100	2,800	3,500	4,200	4,900	5,600	6,300	7,000
200	1,400	2,800	4,200	5,600	7,000	8,400	9,800	11,200	12,600	14,000
300	2,100	4,200	6,300	8,400	10,500	12,600	14,700	16,800	18,900	21,000
400	2,800	5,600	8,400	11,200	14,000	16,800	19,600	22,400	25,200	28,000
500	3,500	7,000	10,500	14,000	17,500	21,000	24,500	28,000	31,500	35,000
600	4,200	8,400	12,600	16,800	21,000	25,200	29,400	33,600	37,800	42,000

(Continued on page 351)

700	0	4,900	9,800	14,700	19,600	24,500	29,400	34,300	39,200	44,100	49,000
800	0	5,600	11,200	16,800	22,400	28,000	33,600	39,200	44,800	50,400	56,000
900	0	6,300	12,600	18,900	25,200	31,500	37,800	44,100	50,400	56,700	63,000
1000	0	7,000	14,000	21,000	28,000	35,000	42,000	49,000	56,000	63,000	70,000

EXAMPLE.—Wall 100 feet long, 10 feet in height, 18 inches thick, then by table 100 times 10 equals 1,000 superficial feet. Find to the right opposite the 1,000, in column 18-inches, shows 28,000 brick wall measure. If more than 1,000 feet add two or more items.

SCALE FOR COMPUTING APPROXIMATELY THE DIFFERENCE BETWEEN WALL MEASURE AND KILN COUNT COMMON BRICK, SPREAD JOINTS $\frac{1}{2}$ TO $\frac{3}{4}$ IN THICKNESS. BRICK SIZE ABOUT $2\frac{1}{4}$ BY $8\frac{1}{2}$ BY 4 INCHES.

	75%	80%
1,000 Bricks wall measure will require about.....	750 to	800 bricks actual or kiln count.
2,000 Bricks wall measure will require about.....	1,500 to	1,600 bricks actual or kiln count.
3,000 Bricks wall measure will require about.....	2,250 to	2,400 bricks actual or kiln count.
4,000 Bricks wall measure will require about.....	3,000 to	3,200 bricks actual or kiln count.
5,000 Bricks wall measure will require about.....	3,750 to	4,000 bricks actual or kiln count.
6,000 Bricks wall measure will require about.....	4,500 to	4,800 bricks actual or kiln count.
7,000 Bricks wall measure will require about.....	5,250 to	5,600 bricks actual or kiln count.
8,000 Bricks wall measure will require about.....	6,000 to	64,00 bricks actual or kiln count.
9,000 Bricks wall measure will require about.....	6,750 to	7,200 bricks actual or kiln count.

(Continued on Page 352)

10,000	Bricks wall measure will require about.....	7,500 to	8,000 bricks actual or kiln count.
11,000	Bricks wall measure will require about.....	8,250 to	8,800 bricks actual or kiln count.
12,000	Bricks wall measure will require about.....	9,000 to	9,600 bricks actual or kiln count.
13,000	Bricks wall measure will require about.....	9,750 to	10,400 bricks actual or kiln count.
14,000	Bricks wall measure will require about.....	10,500 to	11,200 bricks actual or kiln count.
15,000	Bricks wall measure will require about.....	11,250 to	12,000 bricks actual or kiln count.
16,000	Bricks wall measure will require about.....	12,000 to	12,800 bricks actual or kiln count.
17,000	Bricks wall measure will require about.....	12,750 to	13,600 bricks actual or kiln count.
18,000	Bricks wall measure will require about.....	13,500 to	14,400 bricks actual or kiln count.
19,000	Bricks wall measure will require about.....	14,250 to	15,200 bricks actual or kiln count.
20,000	Bricks wall measure will require about.....	15,000 to	16,000 bricks actual or kiln count.
21,000	Bricks wall measure will require about.....	15,750 to	16,800 bricks actual or kiln count.
22,000	Bricks wall measure will require about.....	16,500 to	17,600 bricks actual or kiln count.
23,000	Bricks wall measure will require about.....	17,250 to	18,400 bricks actual or kiln count.
24,000	Bricks wall measure will require about.....	18,000 to	19,200 bricks actual or kiln count.
25,000	Bricks wall measure will require about.....	18,750 to	20,000 bricks actual or kiln count.
26,000	Bricks wall measure will require about.....	19,500 to	20,800 bricks actual or kiln count.
27,000	Bricks wall measure will require about.....	20,250 to	21,600 bricks actual or kiln count.
28,000	Bricks wall measure will require about.....	21,000 to	22,400 bricks actual or kiln count.
29,000	Bricks wall measure will require about.....	21,750 to	23,200 bricks actual or kiln count.
30,000	Bricks wall measure will require about.....	22,500 to	24,000 bricks actual or kiln count.
31,000	Bricks wall measure will require about.....	23,250 to	24,800 bricks actual or kiln count.
32,000	Bricks wall measure will require about.....	24,000 to	25,600 bricks actual or kiln count.

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33,000 Bricks wall measure will require about.....	24,750 to	26,400 bricks actual or kiln count.
34,000 Bricks wall measure will require about.....	25,500 to	27,200 bricks actual or kiln count.
35,000 Bricks wall measure will require about.....	26,250 to	28,000 bricks actual or kiln count.
36,000 Bricks wall measure will require about.....	27,808 to	28,800 bricks actual or kiln count.
37,000 Bricks wall measure will require about.....	27,750 to	29,600 bricks actual or kiln count.
38,000 Bricks wall measure will require about.....	28,500 to	30,400 bricks actual or kiln count.
39,000 Bricks wall measure will require about.....	29,250 to	31,200 bricks actual or kiln count.
40,000 Bricks wall measure will require about.....	30,000 to	32,000 bricks actual or kiln count.
41,000 Bricks wall measure will require about.....	30,750 to	32,800 bricks actual or kiln count.
42,000 Bricks wall measure will require about.....	31,500 to	33,600 bricks actual or kiln count.
43,000 Bricks wall measure will require about.....	32,250 to	34,400 bricks actual or kiln count.
44,000 Bricks wall measure will require about.....	33,000 to	35,200 bricks actual or kiln count.
45,000 Bricks wall measure will require about.....	33,750 to	36,000 bricks actual or kiln count.
46,000 Bricks wall measure will require about.....	34,500 to	36,800 bricks actual or kiln count.
47,000 Bricks wall measure will require about.....	35,250 to	37,600 bricks actual or kiln count.
48,000 Bricks wall measure will require about.....	36,000 to	38,400 bricks actual or kiln count.
49,000 Bricks wall measure will require about.....	36,750 to	39,200 bricks actual or kiln count.
50,000 Bricks wall measure will require about.....	37,500 to	40,000 bricks actual or kiln count.
55,000 Bricks wall measure will require about.....	41,250 to	44,000 bricks actual or kiln count.
55,000 Bricks wall measure will require about.....	45,000 to	48,000 bricks actual or kiln count.
60,000 Bricks wall measure will require about.....	48,750 to	52,000 bricks actual or kiln count.
65,000 Bricks wall measure will require about.....	52,500 to	56,000 bricks actual or kiln count.
70,000 Bricks wall measure will require about.....	56,250 to	60,000 bricks actual or kiln count.
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(Continued on Page 354)

10,000	Bricks wall	measure will	require about	7,500 to	8,000 bricks actual or kiln count.
11,000	Bricks wall	measure will	require about	8,250 to	8,800 bricks actual or kiln count.
12,000	Bricks wall	measure will	require about	9,000 to	9,600 bricks actual or kiln count.
13,000	Bricks wall	measure will	require about	9,750 to	10,400 bricks actual or kiln count.
14,000	Bricks wall	measure will	require about	10,500 to	11,200 bricks actual or kiln count.
15,000	Bricks wall	measure will	require about	11,250 to	12,000 bricks actual or kiln count.
16,000	Bricks wall	measure will	require about	12,000 to	12,800 bricks actual or kiln count.
17,000	Bricks wall	measure will	require about	12,750 to	13,600 bricks actual or kiln count.
18,000	Bricks wall	measure will	require about	13,500 to	14,400 bricks actual or kiln count.
19,000	Bricks wall	measure will	require about	14,250 to	15,200 bricks actual or kiln count.
20,000	Bricks wall	measure will	require about	15,000 to	16,000 bricks actual or kiln count.
21,000	Bricks wall	measure will	require about	15,750 to	16,800 bricks actual or kiln count.
22,000	Bricks wall	measure will	require about	16,500 to	17,600 bricks actual or kiln count.
23,000	Bricks wall	measure will	require about	17,250 to	18,400 bricks actual or kiln count.
24,000	Bricks wall	measure will	require about	18,000 to	19,200 bricks actual or kiln count.
25,000	Bricks wall	measure will	require about	18,750 to	20,000 bricks actual or kiln count.
26,000	Bricks wall	measure will	require about	19,500 to	20,800 bricks actual or kiln count.
27,000	Bricks wall	measure will	require about	20,250 to	21,600 bricks actual or kiln count.
28,000	Bricks wall	measure will	require about	21,000 to	22,400 bricks actual or kiln count.
29,000	Bricks wall	measure will	require about	21,750 to	23,200 bricks actual or kiln count.
30,000	Bricks wall	measure will	require about	22,500 to	24,000 bricks actual or kiln count.
31,000	Bricks wall	measure will	require about	23,250 to	24,800 bricks actual or kiln count.
32,000	Bricks wall	measure will	require about	24,000 to	25,600 bricks actual or kiln count.

(Continued on Page 353)

33,000 Bricks wall measure will require about.....	24,750 to	26,400 bricks actual or kiln count.
34,000 Bricks wall measure will require about.....	25,500 to	27,200 bricks actual or kiln count.
35,000 Bricks wall measure will require about.....	26,250 to	28,000 bricks actual or kiln count.
36,000 Bricks wall measure will require about.....	27,808 to	29,600 bricks actual or kiln count.
37,000 Bricks wall measure will require about.....	27,750 to	29,600 bricks actual or kiln count.
38,000 Bricks wall measure will require about.....	28,500 to	30,400 bricks actual or kiln count.
39,000 Bricks wall measure will require about.....	29,250 to	31,200 bricks actual or kiln count.
40,000 Bricks wall measure will require about.....	30,000 to	32,000 bricks actual or kiln count.
41,000 Bricks wall measure will require about.....	30,750 to	32,800 bricks actual or kiln count.
42,000 Bricks wall measure will require about.....	31,500 to	33,600 bricks actual or kiln count.
43,000 Bricks wall measure will require about.....	32,250 to	34,400 bricks actual or kiln count.
44,000 Bricks wall measure will require about.....	33,000 to	35,200 bricks actual or kiln count.
45,000 Bricks wall measure will require about.....	33,750 to	36,000 bricks actual or kiln count.
46,000 Bricks wall measure will require about.....	34,500 to	36,800 bricks actual or kiln count.
47,000 Bricks wall measure will require about.....	35,250 to	37,600 bricks actual or kiln count.
48,000 Bricks wall measure will require about.....	36,000 to	38,400 bricks actual or kiln count.
49,000 Bricks wall measure will require about.....	36,750 to	39,200 bricks actual or kiln count.
50,000 Bricks wall measure will require about.....	37,500 to	40,000 bricks actual or kiln count.
55,000 Bricks wall measure will require about.....	41,250 to	44,000 bricks actual or kiln count.
60,000 Bricks wall measure will require about.....	45,000 to	48,000 bricks actual or kiln count.
65,000 Bricks wall measure will require about.....	48,750 to	52,000 bricks actual or kiln count.
70,000 Bricks wall measure will require about.....	52,500 to	56,000 bricks actual or kiln count.
75,000 Bricks wall measure will require about.....	56,250 to	60,000 bricks actual or kiln count.

(Continued on Page 354)

80,000 Bricks wall measure will require about.....	60,000 to 64,000 bricks actual or kiln count.
85,000 Bricks wall measure will require about.....	63,750 to 68,000 bricks actual or kiln count.
90,000 Bricks wall measure will require about.....	76,500 to 72,000 bricks actual or kiln count.
95,000 Bricks wall measure will require about.....	71,250 to 76,000 bricks actual or kiln count.
100,000 Bricks wall measure will require about.....	75,000 to 80,000 bricks actual or kiln count.
200,000 Bricks wall measure will require about.....	150,000 to 160,000 bricks actual or kiln count.
300,000 Bricks wall measure will require about.....	225,000 to 240,000 bricks actual or kiln count.
400,000 Bricks wall measure will require about.....	300,000 to 320,000 bricks actual or kiln count.
500,000 Bricks wall measure will require about.....	375,000 to 400,000 bricks actual or kiln count.
600,000 Bricks wall measure will require about.....	450,000 to 480,000 bricks actual or kiln count.
700,000 Bricks wall measure will require about.....	525,000 to 560,000 bricks actual or kiln count.
800,000 Bricks wall measure will require about.....	600,000 to 640,000 bricks actual or kiln count.
900,000 Bricks wall measure will require about.....	675,000 to 720,000 bricks actual or kiln count.
1,000,000 Bricks wall measure will require about.....	750,000 to 800,000 bricks actual or kiln count.

NOTE.—The actual or kiln count quantities are what we have to purchase from the brick company, to build a wall as shown in wall measure; we therefore must buy lime and sand or cement to lay each thousand brick actual or kiln count, to get the quantities of lime for any number of thousand brick, multiply by 3 bushel.

We will take for example, a wall measures 100,000 brick and figuring 75%, the actual brick as per table shows 75,000 brick times 3 bushel of lime, require 225 bushel. The sand is estimated at $\frac{3}{4}$ yard per each thousand actual brick, 75 times $\frac{3}{4}$ yards equals 46% cubic yards.

The same applies to cement per barrel as per mixture

100,000 Brick wall measure, requires 75,000 brick say \$7.00 per thousand equals \$525.00; 225 bushel of lime at 25 cents equals \$56.25; 47 cubic yards sand at \$1.50 equals \$70.50; 75,000 brick labor at \$6.60 5-7 equals \$495.53 4-7; total \$1147.28 4-7. \$1147.28 divided by 100,000 equals \$11.47 7-25 per 1,000 wall measure or \$15.29 53-75 per kiln count.

Labor combined mason \$5.50; labor \$3.00 and 1 1/4 tender to each mason, the wall average 13-inches \$5.50 plus \$3.00 plus 1/4 of \$3.00 combined equals \$9.25 per day, 8 hours.

See table article number 6, at \$9.25 shows the cost \$6.60 5-7 per thousand kiln count.

For superintendent, foreman etc., see tables. At the above prices of \$11.47 per thousand, will stand the cost of \$4.47 above the price of brick at wall measure.

PLASTERING THE EXTERIOR BRICK WALLS, BELOW GRADE AS DAMP PROOFING, USING PORTLAND CEMENT AND SAND; See Tables 39-40-41-42 and 43. BRICK HAULING FROM CARS ETC., COMMON BRICK.

Wages combined for team and extra man or two to help load as the conditions require, 1,000 brick per load, wages combined, 10 hours per day.

Distance of haul.	Loads.	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.25
10 or 1,320 feet	10	.55	.57	.60	.62	.65	.67	.70	.72
8 or 2,640 feet	8	.68	.71	.78	.81	.84	.87	.90	.90
7 or 3,960 feet	7	.78	.82	.85	.89	.92	.96	1.00	1.03

(Continued on Page 356)

BRICK HAULING

	1	Distance	Loads	\$ 5.50	\$ 5.75	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.25
		Mile or 5,280 feet	6	.91	.95	1.00	1.04	1.08	1.12	1.16	1.20
	1 1/4	Mile or 6,600 feet	5	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45
	1 1/2	Mile or 7,920 feet	5	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45
	1 3/4	Mile or 9,240 feet	4	1.37	1.43	1.50	1.62	1.68	1.75	1.75	1.81
	2	Miles or 10,560 feet	4	1.37	1.43	1.50	1.56	1.62	1.68	1.75	1.81
	2 1/4	Miles or 11,880 feet	††††3	1.83	1.91	2.00	2.08	2.16	2.25	2.33	2.41
	2 1/2	Miles or 13,200 feet	†††3	1.83	1.91	2.00	2.08	2.16	2.25	2.33	2.41
	2 3/4	Miles or 14,520 feet	††3	1.83	1.91	2.00	2.08	2.16	2.25	2.33	2.41
	3	Miles or 15,840 feet	3	1.83	1.91	2.00	2.08	2.16	2.25	2.33	2.41
	3 1/4	Miles or 17,160 feet	3	1.83	1.91	2.00	2.08	2.16	2.25	2.33	2.41
	3 1/2	Miles or 18,480 feet	††††2	2.75	2.87	3.00	3.12	3.25	3.37	3.50	3.62
	3 3/4	Miles or 19,800 feet	††††2	2.75	2.87	3.00	3.12	3.25	3.37	3.50	3.62
	4	Miles or 21,120 feet	††††2	2.75	2.87	3.00	3.12	3.25	3.37	3.50	3.62
	4 1/4	Miles or 22,440 feet	†††2	2.75	2.87	3.00	3.12	3.25	3.37	3.50	3.62
	4 1/2	Miles or 23,760 feet	††2	2.75	2.87	3.00	3.12	3.25	3.37	3.50	3.62
	4 3/4	Miles or 25,080 feet	†2	2.75	2.87	3.00	3.12	3.25	3.37	3.50	3.62
	5	Miles or 26,400 feet	2	2.75	2.87	3.00	3.12	3.25	3.37	3.50	3.62

(Continued on Page 337)

BRICK HAULING

Distance of haul	Loads	\$ 7.50	\$ 7.75	\$ 8.00	\$ 8.25	\$ 8.50	\$ 8.75	\$ 9.00
$\frac{1}{4}$ Mile or 1,320 feet	10	.75	.77	.80	.82	.85	.87	.90
$\frac{1}{2}$ Mile or 2,640 feet	8	.93	.96	1.00	1.03	1.06	1.09	1.12
$\frac{3}{4}$ Mile or 3,960 feet	7	1.07	1.10	1.14	1.17	1.21	1.25	1.28
1 Mile or 5,280 feet	6	1.25	1.29	1.33	1.37	1.40	1.45	1.50
$1\frac{1}{4}$ Mile or 6,600 feet	5	1.50	1.55	1.60	1.65	1.70	1.75	1.80
$1\frac{1}{2}$ Mile or 7,920 feet	5	1.50	1.55	1.60	1.65	1.70	1.75	1.80
$1\frac{3}{4}$ Mile or 9,240 feet	††4	1.87	1.93	2.00	2.06	2.12	2.18	2.25
2 Miles or 10,560 feet	4	1.87	1.93	2.00	2.06	2.12	2.18	2.25
$2\frac{1}{4}$ Miles or 11,880 feet	†††3	2.50	2.58	2.66	2.75	2.83	2.91	3.00
$2\frac{1}{2}$ Miles or 13,200 feet	†††3	2.50	2.58	2.66	2.75	2.83	2.91	3.00
$2\frac{3}{4}$ Miles or 14,520 feet	††3	2.50	2.58	2.66	2.75	2.83	2.91	3.00
3 Miles or 15,840 feet	3	2.50	2.58	2.66	2.75	2.83	2.91	3.00
$3\frac{1}{4}$ Miles or 17,160 feet	3	2.50	2.58	2.66	2.75	2.83	2.91	3.00
$3\frac{1}{2}$ Miles or 18,480 feet	††††2	3.75	3.87	4.00	4.12	4.25	4.37	4.50
$3\frac{3}{4}$ Miles or 19,800 feet	††††2	3.75	3.87	4.00	4.12	4.25	4.37	4.50
$3\frac{1}{2}$ Miles or 21,120 feet	††††2	3.75	3.87	4.00	4.12	4.25	4.37	4.50
$4\frac{1}{4}$ Miles or 22,440 feet	††††2	3.75	3.87	4.00	4.12	4.25	4.37	4.50
$4\frac{1}{2}$ Miles or 23,760 feet	†††2	3.75	3.87	4.00	4.12	4.25	4.37	4.50
$4\frac{3}{4}$ Miles or 25,080 feet	††2	3.75	3.87	4.00	4.12	4.25	4.37	4.50
$4\frac{1}{2}$ Miles or 26,400 feet	†2	3.75	3.87	4.00	4.12	4.25	4.37	4.50
$4\frac{3}{4}$ Miles or 26,400 feet	2	3.75	3.87	4.00	4.12	4.25	4.37	4.50

(Continued on Page 358)

- NOTE.—One † Indicates the cost shown by the number of loads can be made in $9\frac{1}{2}$ hours.
- Two †† Indicates the cost shown but the number of loads can be made in 9 hours.
- Three ††† Indicates the cost shown but the number of loads can be made in $8\frac{1}{2}$ hours.
- Four †††† Indicates the cost shown but the number of loads can be made in 8 hours.
- Five ††††† Indicates the cost shown but the number of loads can be made in $7\frac{1}{2}$ hours.

The difference between the stars(†) and the 10 hours a team cannot easily make extra load.

Where no stars are shown it indicates 10 hours work or about, the prices given are somewhat high, figuring one man to assist the teamster, the time lost is going and coming with the extra man idle at the time. If the brick are packed in cars counting the length to carry brick to loader, it would be best to use two or three men to supply the loader, provided the brick are loaded in box cars. If the brick are in open cars the expense of loading will be some less because the wagons can be placed opposite the brick in car. The prices are on this basis of only one team and one man to help load and unload. We will on the following page give cost per 1,000 brick hauled. Allowing enough teams to keep two men busily engaged pitching brick to loader and one extra man to help teamster unload. On long hauls it is sometimes profitable to have extra wagon at car to load, and one empty to hitch to at the building, this will keep the teams engaged. The cost given on page 128, are allowing only wagon to be loaded at a time, we may say a box car.

HAULING 1,000 COMMON BRICK $\frac{1}{4}$ MILE, TWO MEN TO PITCH BRICK TO TEAMSTER AND
ONE MAN TO HELP TEAMSTERS TO UNLOAD WITH COMBINED WAGES, TWO
TEAMS AND THREE EXTRA HELPERS, 10 HOURS PER DAY

Wages combined.....	\$11.00	\$11.50	\$12.00	\$12.50	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00
Cost per 1,000 brick.....	.55	.57	.60	.62	.65	.67	.70	.72	.75
Wages combined.....	\$15.50	\$16.00	\$16.50	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	
Cost per 1,000 brick.....	.77	.80	.82	.85	.87	.90	.92	.95	

ARTICLE No. 96.

HAULING 1,000 BRICK $\frac{1}{2}$ MILE, TWO MEN TO PITCH BRICK TO TEAMSTER AND ONE MAN
TO HELP TEAMSTERS TO UNLOAD WITH COMBINED WAGES, THREE TEAMS
AND THREE EXTRA HELPERS, 10 HOURS PER DAY

Wages combined.....	\$15.00	\$15.50	\$16.00	\$16.50	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00
Cost per 1,000 brick.....	.62	.64	.66	.68	.70	.72	.75	.77	.79
Wages combined.....	\$19.50	\$120.00	\$20.50	\$21.00	\$22.00	\$23.00	\$24.00	\$25.00	
Cost per 1,000 brick.....	.81	.83	.85	.87	.91	.95	1.00	1.04	

FIGURE No. 96.

HAULING 1,000 COMMON BRICK $\frac{3}{4}$ MILE, TWO MEN TO PITCH BRICK TO TEAMSTERS AND ONE MAN TO HELP TEAMSTERS TO UNLOAD WITH COMBINED WAGES, THREE TEAMS AND THREE EXTRA HELPERS, 10 HOURS PER DAY

Wages combined.....	\$15.00	\$15.50	\$16.00	\$16.50	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00
Cost per 1,000 brick.....	.75	.77	.80	.82	.85	.87	.90	.92	.95

Wages combined.....	\$19.50	\$20.00	\$20.50	\$21.00	\$22.00	\$23.00	\$24.00	\$25.00
Cost per 1,000 brick.....	.97	1.00	1.02	1.05	1.10	1.15	1.20	1.25

ARTICLE No. 97.

HAULING 1,000 COMMON BRICK 1 MILE, TWO MEN TO PITCH BRICK TO TEAMSTERS AND ONE MAN TO HELP TEAMSTERS TO UNLOAD WITH COMBINED WAGES, FOUR TEAMS AND THREE EXTRA HELPERS, 10 HOURS PER DAY

Wages combined.....	\$19.00	\$19.50	\$20.00	\$20.50	\$21.00	\$21.50	\$22.00	\$22.50	\$23.00
Cost per 1,000 brick.....	.86	.88	.90	.93	.95	.97	1.00	1.02	1.04

Wages combined.....	\$23.50	\$24.00	\$24.50	\$25.00	\$26.00	\$27.00	\$28.00	\$29.00
Cost per 1,000 brick.....	1.06	1.09	1.11	1.13	1.18	1.22	1.27	1.31

ARTICLE NO. 98.

HAULING 1,000 COMMON BRICK 1¼ MILES, TWO MEN TO PITCH BRICK TO TEAMSTERS
AND ONE MAN TO HELP TEAMSTERS TO UNLOAD WITH COMBINED WAGES,

FOUR TEAMS AND THREE EXTRA HELPERS, 10 HOURS PER DAY

Wages combined.....	\$19.00	\$19.50	\$20.00	\$20.50	\$21.00	\$21.50	\$22.00	\$22.50	\$23.00
Cost per 1,000 brick.....	.95	.97	1.00	1.02	1.05	1.07	1.10	1.12	1.15

Wages combined.....	\$23.50	\$24.00	\$24.50	\$25.00	\$26.00	\$27.00	\$28.00	\$29.00
Cost per 1,000 brick.....	1.17	1.20	1.22	1.25	1.30	1.35	1.40	1.45

ARTICLE No. 99.

HAULING 1,000 COMMON BRICK 1½ MILES, TWO MEN TO PITCH BRICK TO TEAMSTERS AND
ONE MAN TO HELP TEAMSTERS TO UNLOAD WITH COMBINED WAGES, FIVE
TEAMS AND THREE EXTRA HELPERS, 10 HOURS PER DAY

Wages combined.....	\$23.00	\$23.50	\$24.00	\$24.50	\$25.00	\$25.50	\$26.00	\$26.50	\$27.00
Cost per 1,000 brick.....	1.04	1.06	1.09	1.11	1.13	1.15	1.18	1.20	1.22

Wages combined.....	\$27.50	\$28.00	\$28.50	\$29.00	\$30.00	\$31.00	\$32.00	\$33.00
Cost per 1,000 brick.....	1.25	1.27	1.29	1.31	1.36	1.40	1.45	1.50

ARTICLE No. 100.

HAULING 1,000 COMMON BRICK $1\frac{3}{4}$ MILES, TWO MEN TO PITCH BRICK TO TEAMSTERS
AND ONE MAN TO HELP TEAMSTERS TO UNLOAD WITH COMBINED WAGES,
FIVE TEAMS AND THREE EXTRA HELPERS, 10 HOURS PER DAY

Wages combined.....	\$23.00	\$23.50	\$24.00	\$24.50	\$25.00	\$25.50	\$26.00	\$26.50	\$27.00
Cost per 1,000 brick.....	1.15	1.17	1.20	1.22	1.25	1.27	1.30	1.32	1.35
Wages combined.....	\$27.50	\$28.00	\$28.50	\$29.00	\$30.00	\$31.00	\$32.00	\$33.00	
Cost per 1,000 brick.....	1.37	1.40	1.42	1.45	1.50	1.55	1.60	1.65	

ARTICLE No. 101.

HAULING 1,000 COMMON BRICK TWO MILES, TWO MEN TO PITCH BRICK TO TEAMSTERS
AND ONE MAN TO HELP TEAMSTERS TO UNLOAD WITH COMBINED WAGES,
SEVEN TEAMS AND THREE EXTRA HELPERS, 10 HOURS PER DAY

Wages combined.....	\$31.00	\$31.50	\$32.00	\$32.50	\$33.00	\$33.50	\$34.00	\$34.50	\$35.00
Cost per 1,000 brick.....	1.34	1.36	1.39	1.41	1.43	1.45	1.47	1.50	1.52
Wages combined.....	\$35.50	\$36.00	\$36.50	\$37.00	\$38.00	\$39.00	\$40.00	\$41.00	
Cost per 1,000 brick.....	1.54	1.56	1.58	1.60	1.65	1.69	1.73	1.78	

HAULING 1,000 COMMON BRICK $2\frac{1}{4}$ MILES, TWO MEN TO PITCH BRICK TO TEAMSTERS
 AND ONE MAN TO HELP TEAMSTERS TO UNLOAD WITH COMBINED WAGES,
 SEVEN TEAMS AND THREE EXTRA HELPERS, 10 HOURS PER DAY

Wages combined.....	\$31.00	\$31.50	\$32.00	\$32.50	\$33.00	\$33.50	\$34.00	\$34.50	\$35.00
Cost per 1,000 brick.....	1.47	1.50	1.52	1.54	1.57	1.59	1.61	1.64	1.66
Wages combined.....	\$35.50	\$36.00	\$36.50	\$37.00	\$38.00	\$39.00	\$40.00	\$41.00	
Cost per 1,000 brick.....	1.69	1.71	1.73	1.76	1.80	1.85	1.90	1.95	

ARTICLE No. 103

HAULING 1,000 COMMON BRICK, $2\frac{1}{2}$ MILES, TWO MEN TO PITCH BRICK TO TEAMSTERS,
 AND ONE MAN TO HELP TEAMSTERS TO UNLOAD, WITH COMBINED WAGES; 8 TEAMS
 3 EXTRA HELPERS; 10 HOURS PER DAY.

Wages combined.....	\$ 35.00	\$ 35.50	\$ 36.00	\$ 36.60	\$ 37.00	\$ 37.50	\$ 38.00	\$ 39.00	\$ 40.00
Cost per 1,000 brick.....	1.59	1.61	1.63	1.65	1.68	1.70	1.72	1.77	1.81
Wages combined.....	\$ 41.00	\$ 42.00	\$ 43.00	\$ 44.00	\$ 45.00	\$ 46.00	\$ 47.00	\$ 48.00	
Cost per 1,000 brick.....	1.86	1.90	1.95	2.00	2.04	2.09	2.13	2.18	

ARTICLE No. 104

HAULING 1,000 COMMON BRICK, 2¼ MILES, TWO MEN TO PITCH BRICK TO TEAMSTERS,
AND ONE MAN TO HELP TEAMSTERS TO UNLOAD, WITH COMBINED WAGES, 8 TEAMS,
3 EXTRA HELPERS, 10 HOURS PER DAY.

Wages combined.....	\$ 35.00	\$ 35.50	\$ 36.00	\$ 36.50	\$ 37.00	\$ 37.50	\$ 38.00	\$ 39.00	\$ 40.00
Cost per 1,000 brick.....	1.75	1.77	1.80	1.82	1.85	1.87	1.90	1.95	2.00
Wages combined.....	\$ 41.00	\$ 42.00	\$ 43.00	\$ 44.00	\$ 45.00	\$ 46.00	\$ 47.00	\$ 48.00	
Cost per 1,000 brick.....	2.05	2.10	2.15	2.20	2.25	2.30	2.35	2.40	

ARTICLE No. 105

HAULING 1,000 COMMON BRICK, 3 MILES, TWO MEN TO PITCH BRICK TO TEAMSTERS,
AND ONE MAN TO HELP TEAMSTERS TO UNLOAD, WITH COMBINED WAGES, 9 TEAMS,
3 EXTRA HELPERS, 10 HOURS PER DAY.

Wages combined.....	\$ 39.00	\$ 39.50	\$ 40.00	\$ 40.50	\$ 41.00	\$ 41.50	\$ 42.00	\$ 43.00	\$ 44.00
Cost per 1,000 brick.....	1.95	1.97	2.00	2.02	2.05	2.07	2.10	2.15	2.20
Wages combined.....	\$ 45.00	\$ 46.00	\$ 47.00	\$ 48.00	\$ 49.00	\$ 50.00	\$ 51.00	\$ 52.00	
Cost per 1,000 brick.....	2.25	2.30	2.35	2.40	2.45	2.50	2.55	2.60	

ARTICLE No. 106

HAULING 1,000 COMMON BRICK, 3¼ MILES, TWO MEN TO PITCH BRICK TO TEAMSTERS,
AND ONE MAN TO HELP TEAMSTERS TO UNLOAD, WITH COMBINED WAGES; 9 TEAMS,
3 EXTRA HELPERS, 10 HOURS PER DAY.

Wages combined.....	\$ 39.00	\$ 39.50	\$ 40.00	\$ 40.50	\$ 41.00	\$ 41.50	\$ 42.00	\$ 43.00	\$ 44.00
Cost per 1,000 brick.....	2.05	2.07	2.10	2.13	2.15	2.18	2.21	2.26	2.31

Wages combined.....	\$ 45.00	\$ 46.00	\$ 47.00	\$ 48.00	\$ 49.00	\$ 50.00	\$ 51.00	\$ 52.00
Cost per 1,000 brick.....	2.36	2.42	2.47	2.52	2.57	2.63	2.68	2.73

ARTICLE No. 107

HAULING 1,000 COMMON BRICK, 3½ MILES, TWO MEN TO PITCH BRICK TO TEAMSTERS,
AND ONE MAN TO HELP TEAMSTERS TO UNLOAD, WITH COMBINED WAGES; 6 TEAMS,
3 EXTRA HELPERS, 9 HOURS PER DAY.

Wages combined.....	\$ 27.00	\$ 27.50	\$ 28.00	\$ 28.50	\$ 29.00	\$ 29.50	\$ 30.00	\$ 30.50	\$ 31.00
Cost per 1,000 brick.....	2.25	2.29	2.33	2.37	2.41	2.45	2.50	2.54	2.58

Wages combined.....	\$ 32.00	\$ 33.00	\$ 34.00	\$ 35.00	\$ 36.00	\$ 37.00	\$ 38.00	\$ 39.00
Cost per 1,000 brick.....	2.66	2.75	2.83	2.91	3.00	3.08	3.16	3.25

ARTICLE No. 108.

HAULING 1,000 COMMON BRICK $3\frac{3}{4}$ MILES—TWO MEN TO PITCH BRICK TO TEAMSTERS
AND ONE MAN TO HELP TEAMSTERS TO UNLOAD WITH COMBINED WAGES
SEVEN TEAMS, THREE EXTRA HELPERS—10 HOURS PER DAY

Wages combined.....	\$31.00	\$31.50	\$32.00	\$32.50	\$33.00	\$33.50	\$34.00	\$35.00	\$36.00
Cost per 1,000 brick.....	2.38	2.42	2.46	2.50	2.53	2.57	2.61	2.69	2.76
Wages combined.....	\$37.00	\$38.00	\$39.00	\$40.00	\$41.00	\$42.00	\$43.00	\$44.00	
Cost per 1,000 brick.....	2.84	2.92	3.00	3.07	3.15	3.23	3.30	3.38	

ARTICLE No. 109.

HAULING 1,000 COMMON BRICK 4 MILES, TWO MEN TO PITCH BRICK TO TEAMSTERS AND
ONE MAN TO HELP TEAMSTERS TO UNLOAD WITH WAGES COMBINED—SIX
TEAMS, THREE EXTRA HELPERS—10 HOURS PER DAY

Wages combined.....	\$27.00	\$27.50	\$28.00	\$28.50	\$29.00	\$29.50	\$30.00	\$30.50	\$31.00
Cost per 1,000 brick.....	2.45	2.50	2.54	2.59	2.63	2.68	2.72	2.77	2.81
Wages combined.....	\$32.00	\$33.00	\$34.00	\$35.00	\$36.00	\$37.00	\$38.00	\$39.00	
Cost per 1,000 brick.....	2.90	3.00	3.09	3.18	3.27	3.36	3.45	3.54	

ARTICLE No. 110.

HAULING 1,000 COMMON BRICK 4½ MILES, TWO MEN TO PITCH BRICK TO TEAMSTERS AND
ONE MAN TO HELP TEAMSTERS TO UNLOAD WITH COMBINED WAGES, FOUR
TEAMS, THREE EXTRA HELPERS—10 HOURS PER DAY

Wages combined.....	\$19.00	\$19.50	\$20.00	\$20.50	\$21.00	\$21.50	\$22.00	\$22.50	\$23.00
Cost per 1,000 brick.....	2.71	2.78	2.85	2.92	3.00	3.07	3.14	3.21	3.28
Wages combined.....	\$23.50	\$24.00	\$24.50	\$25.00	\$26.00	\$27.00	\$28.00	\$29.00	
Cost per 1,000 brick.....	3.35	3.42	3.50	3.57	3.71	3.85	4.00	4.14	

ARTICLE No. 111.

HAULING 1,000 COMMON BRICK 5 MILES, TWO MEN TO PITCH BRICK TO TEAMSTERS AND
ONE MAN TO HELP TEAMSTERS TO UNLOAD WITH COMBINED WAGES, FOUR
TEAMS, THREE EXTRA MEN AND ONE EXTRA WAGON TO LOAD
AT CAR

Wages combined.....	\$19.00	\$19.50	\$20.00	\$20.50	\$21.00	\$21.50	\$22.00	\$22.50	\$23.00
Cost per 1,000 brick.....	2.71	2.78	2.85	2.92	3.00	3.07	3.14	3.21	3.28
Wages combined.....	\$23.50	\$24.00	\$24.50	\$25.00	\$26.00	\$27.00	\$28.00	\$29.00	
Cost per 1,000 brick.....	3.35	3.42	3.50	3.57	3.71	3.85	4.00	4.14	

NOTE.—The foregoing prices on hauling 1,000 brick from $\frac{1}{4}$ to 5 miles are somewhat high, as the prices are estimated on the following conditions: First. The brick are loaded in box cars which seldom allow more than one wagon at a time to be loaded unless there are driveways on each side of track where cars are unloaded. We very seldom find the favorable conditions, therefore, we figure on loading from one side and one door which allows only one wagon at a time. We again find much time lost when employing more than one team; this time is lost on the start in the morning or when starting to haul. We will say it requires 30 minutes to load the first wagon; the second wagon waits 30 minutes until it can begin to load and these conditions add 30 minutes for each wagon hauling. If the teams work 10 hours per day, the first team has 600 minutes the second has 570 minutes, the third team 540 minutes or 9 hours. At the same time these teams have to be paid as if working. Again we figure it requires more labor to load brick from a box car. As soon as the brick has been removed from the door or pitching distance, then all brick has to be carried or wheeled so as to be loaded. The nearer to ends of cars the more expensive it is to load. If the brick are shipped in open cars, two or three teams can get loaded at the same time with the same amount of help and save much wasted time and cost much less per thousand brick. If we pay 50 cents per hour for teams and we save the 30 minutes lost time, that would be a gain of 25 cents per day's work. If the team makes two loads per day, it would cost $12\frac{1}{2}$ cents less per thousand than the foregoing table shows. If the brick are loaded from kilns or piles from the ground, then the cost will be cheaper.

FACE BRICK HAULING

It requires more time and care in handling; these bricks are generally shipped in box cars, as a preventive from fire and inclement weather on account of being packed in straw. In loading the bricks there should be plenty of straw used between each layer of brick; also in stacking bricks at building, each brick should be carefully handled as not to damage them. When nicked or the edges are broken, they are worthless for face work

and can only be used in backing up as common brick. The cost perhaps is at least three times as much as common brick, therefore, it pays to spare more time in handling them, which will cost approximately 50 per cent more than the cost shown in tables "Hauling Common Brick." If it costs \$1.00 per 1,000 common brick, it is worth \$1.50 per 1,000 face brick. The cost of loading and unloading bricks depends greatly upon the men handling the brick. Unexperienced men are very slow and more liable to damage the brick than the experienced man who will handle many more brick and less damage. (Receiving Face and Common Brick, see article on receiving brick). If the face brick has to be gauged or sized, see Article No. 1.

EXPLANATION OF THE FOREGOING TABLES ON HAULING BRICK

Whenever a team is mentioned, it includes the driver. Combined wages includes the general expense for teams and helpers. FOR EXAMPLE: We have a car of 15,000 brick to haul $1\frac{1}{4}$ miles. We pay \$5.00 per 10 hours for teams and \$2.00 per day for helpers. We turn to table at $1\frac{1}{4}$ miles table which shows four teams will haul 20,000 brick or five loads per team; at combined wages equals \$20.00 for teams plus \$6.00 for three helpers equals \$26.00; by table shows \$1.30 per 1,000 brick or \$18.50 per car. These prices are on the basis of brick being shipped in box cars.

BRICK PAVING, WALKS, ETC.

Paving is estimated by the square yard, frequently by the square foot of which 9 square feet equals 1 square yard. Multiply the length by the width of walk, floors, etc., then divide the contents by 9 square feet which will give the required square yards. As to the number of brick required per square yard depends on which sizes purchased. The standard brick used for buildings are $2\frac{1}{4}\times 8\frac{1}{4}\times 4$ inches. Some manufacturers the paving brick of the standard size, which are termed pavers. There are also brick made which are called *ker* block. The sizes are about $3\frac{1}{4}\times 8\frac{1}{4}\times 4$ inches. There are some blocks made $3\times 9\times 4$ inches; these bricks

are made from a shale and are called vitrified. The pavers should be laid with joints about $\frac{1}{8}$ inch, to allow the joints to be well filled with cement grout or other materials. As the size of brick vary so does the weight per brick. When getting prices, it is proper to get a few brick as a sample. This enables you to estimate the number of brick it will require to lay 1 square yard; also to get the average weight per brick or block, as to be able to figure the freight. Unless the manufacturer includes freight with the price of brick, some dealers will quote prices F. O. B. factory, some F. O. B. destination; the last named is more satisfactory to the contractor.

BRICK WALKS

Should be laid on 4 to 6 inches of sand which will level to the proper grade to receive the brick, then lay the brick and tamp well by using a short heavy plank, after which sand is spread over the brick and well brushed in the open joints. These bricks are generally laid flat.

BRICK STREETS, DRIVEWAYS, ETC.

When brick are laid edgewise, a concrete foundation should be laid 4 to 6 inches thick, after which a layer of sand 2 or 3 inches thick is laid under the brick. When laying the brick, allow good size joints to take the grout, which is worked in by the use of a brush. If the pavers are made with square edges, then to get the good filled joints of cement grout, use lath or similar strips about $\frac{1}{4}$ inch in thickness, laying the strips between each course, which is removed every other course of brick, which leaves the joints open. If the pavers have beveled edges, then the lath are not so essential as the grout will work more freely.

NUMBER OF BRICK PER SQUARE YARD (PAVING)

It will require per square yard, size of brick $2\frac{1}{4} \times 8\frac{1}{4} \times 4$ inches laid flat.....	37	brick
It will require per square yard, size of brick $2\frac{1}{4} \times 8\frac{1}{4} \times 4$ inches laid on edge.....	65	brick
It will require per square yard, size of brick $2\frac{1}{4} \times 8\frac{1}{4} \times 4$ inches laid on flat.....	36	brick
It will require per square yard, size of brick $2\frac{1}{4} \times 8\frac{1}{4} \times 4$ inches laid on edge.....	57	brick
It will require per square yard, size of brick $3\frac{1}{4} \times 8\frac{1}{4} \times 4$ inches laid on flat.....	36	brick
It will require per square yard, size of brick $3\frac{1}{4} \times 8\frac{1}{4} \times 4$ inches laid on edge.....	44	brick
It will require per square yard, size of brick 3 x 9 x 4 inches laid on flat.....	34	brick
It will require per square yard, size of brick 3 x 9 x 4 inches laid on edge.....	45	brick

EXAMPLE.—We have a walk to lay, 100 feet in length and 6 feet in width, brick to be laid flatwise. The size brick we use are $2\frac{1}{4} \times 8\frac{1}{4} \times 4$ inches; 100 times 6 equals 600, divided by 9 equals $66\frac{2}{3}$ square yards, then by table of size brick which shows 36 brick times $66\frac{2}{3}$ yards equals 2,400 brick. If the brick are laid edgewise of the same size brick, table shows 57 brick per square yard; 57 times $66\frac{2}{3}$ square yards equals 3,800 pavers.

PAVING BRICK WORK

SAND 1 INCH THICK

ARTICLE No. 1.

Sand cost per cubic yard; also cost of sand per square yard, thickness of layer, 1 to 12 inches:

Cost per cubic yd. delivered.....	\$.75	\$.80	\$.85	\$.90	\$.95	\$1.00	\$1.05	\$1.10
Cost per square yd. (cts.).....	2 1-12	2 2-9	2 13-36	.02 $\frac{1}{2}$	2 23-36	2 7-9	2 11-12	3 1-18
Cost per cubic yd. delivered.....	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50	\$2.75	
Cost per square yd. (cts.).....	3 17-36	.04 $\frac{1}{4}$	4 31-36	5 5-9	.06 $\frac{1}{4}$	6 17-18	7 23-36	

ARTICLE No. 2.

SAND 2 INCHES THICK

Cost per cubic yd. delivered.....	\$.75	\$.80	\$.85	\$.90	\$.95	\$ 1.00	\$ 1.05	\$ 1.10
Cost per square yd. (cts.).....	.04½	4 4-9	.04¾	.05	5 5-18	5 5-9	5 5-6	6 1-9
Cost per cubic yd. delivered.....	\$ 1.25	\$ 1.50	\$ 1.75	\$ 2.00	\$ 2.25	\$ 2.50	\$ 2.75	
Cost per square yd. (cts.).....	.07	.08	.09½	11 1-9	.12½	13 8-9	15 2-9	

ARTICLE No. 3.

SAND 3 INCHES THICK

Cost per cubic yd. delivered.....	\$.75	\$.80	\$.85	\$.90	\$.95	\$ 1.00	\$ 1.05	\$ 1.10
Cost per square yd. (cts.).....	.06¼	.06¾	7 1-12	.07½	.08½	.08	.08¾	.09¾
Cost per cubic yd. delivered.....	\$ 1.25	\$ 1.50	\$ 1.75	\$ 2.00	\$ 2.25	\$ 2.50	\$ 2.75	
Cost per square yd. (cts.).....	.10½	.12½	.14½	.16¾	.18¾	20 5-6	.23	

ARTICLE No. 4.

SAND 4 INCHES THICK

Cost per cubic yd. delivered.....	\$.75	\$.80	\$.85	\$.90	\$.95	\$ 1.00	\$ 1.05	\$ 1.10
Cost per square yd. (cts.).....	.08½	8 8-9	9 1-12	.10	10 5-9	11 1-9	.11¾	13 2-9
Cost per cubic yd. delivered.....	\$ 1.25	\$ 1.50	\$ 1.75	\$ 2.00	\$ 2.25	\$ 2.50	\$ 2.75	
Cost per square yd. (cts.).....	13 8-9	.16¾	19 4-9	22 2-9	.25	27 7-9	26 5-9	

ARTICLE No. 5.

SAND 5 INCHES THICK

Cost per cubic yd. delivered.....	\$.75	\$.80	\$.85	\$.90	\$.95	\$1.00	\$1.05	\$1.10
Cost per square yd. (cts.).....	10 5-12	11 1-9	11 7-9	.12½	.13½	13 8-9	.14½	15 2-9
Cost per cubic yd. delivered.....	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50	\$2.75	
Cost per square yd. (cts.).....	.17½	20 5-6	.24½	27 7-9	.31½	.34¾	.38½	

ARTICLE No. 6.

SAND 6 INCHES THICK

Cost per cubic yd. delivered.....	\$.75	\$.80	\$.85	\$.90	\$.95	\$1.00	\$1.05	\$1.10
Cost per square yd. (cts.).....	.12½	.13½	.14½	.15	15 5-6	.16¾	.17½	.18½
Cost per cubic yd. delivered.....	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50	\$2.75	
Cost per square yd. (cts.).....	20 5-6	.25	.29½	.33½	.37½	.41¾	45 5-6	

ARTICLE No. 7.

SAND 7 INCHES THICK

Cost per cubic yd. delivered.....	\$.75	\$.80	\$.85	\$.90	\$.95	\$1.00	\$1.05	\$1.10
Cost per square yd. (cts.).....	.14½	15 5-9	.16¾	.17½	.18½	19 4-9	.20¾	21 4-9
Cost per cubic yd. delivered.....	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50	\$2.75	
Cost per square yd. (cts.).....	.24½	.29¼	.34	38 8-9	.43¾	.48¾	.53½	

ARTICLE No. 8.

SAND 8 INCHES THICK

Cost per cubic yd. delivered.....	\$.75	\$.80	\$.85	\$.90	\$.95	\$1.00	\$1.05	\$1.10
Cost per square yd. (cts.).....	.16 $\frac{3}{4}$	17 5-9	.19 $\frac{1}{2}$	.20	21 1-9	22 2-9	.23 $\frac{1}{2}$	24 4-9
Cost per cubic yd. delivered.....	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50	\$2.75	
Cost per square yd. (cts.).....	27 7-9	.33 $\frac{1}{2}$	38 8-9	44 4-9	.50	55 5-9	61 1-9	

ARTICLE No. 9.

SAND 9 INCHES THICK

Cost per cubic yd. delivered.....	\$.75	\$.80	\$.85	\$.90	\$.95	\$1.00	\$1.05	\$1.10
Cost per square yd. (cts.).....	.18 $\frac{3}{4}$	.20	.21 $\frac{1}{4}$	.22 $\frac{1}{2}$	.23 $\frac{3}{4}$	.25	.26 $\frac{1}{4}$	.27 $\frac{1}{2}$
Cost per cubic yd. delivered.....	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50	\$2.75	
Cost per square yd. (cts.).....	.31 $\frac{1}{4}$	.37 $\frac{1}{2}$	.43 $\frac{3}{4}$	.50	.56 $\frac{1}{4}$	.62 $\frac{1}{2}$	.68 $\frac{3}{4}$	

ARTICLE No. 10.

SAND 10 INCHES THICK

Cost per cubic yd. delivered.....	\$.75	\$.80	\$.85	\$.90	\$.95	\$1.00	\$1.05	\$1.10
Cost per square yd. (cts.).....	20 5-6	22 2-9	.23 $\frac{3}{4}$	.25	.26	27 7-9	.29 $\frac{1}{2}$	30 5-9
Cost per cubic yd. delivered.....	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50	\$2.75	
Cost per square yd. (cts.).....	.34 $\frac{3}{4}$	.41 $\frac{3}{4}$	.48 $\frac{3}{4}$	55 5-9	.62 $\frac{1}{2}$	69 4-9	76 7-18	

ARTICLE No. 11.

SAND 11 INCHES THICK

Cost per cubic yd. delivered.....	\$.75	\$.80	\$.85	\$.90	\$.95	\$1.00	\$1.05	\$1.10
Cost per square yd. (cts.).....	.23	.24½	.26	.27½	.29	.30½	.32	.33½
Cost per cubic yd. delivered.....	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50	\$2.75	
Cost per square yd. (cts.).....	.38	.45½	.53	.61½	.68	.76½	.84	

ARTICLE No. 12.

SAND 12 INCHES THICK

Cost per cubic yd. delivered.....	\$.75	\$.80	\$.85	\$.90	\$.95	\$1.00	\$1.05	\$1.10
Cost per square yd. (cts.).....	.25	.26¾	.28½	.30	.31¾	.33½	.35	.36¾
Cost per cubic yd. delivered.....	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50	\$2.75	
Cost per square yd. (cts.).....	.41¾	.50	.58½	.66¾	.75	.83½	.91¾	

EXAMPLE.—We have a walk 100 feet in length and 6 feet in width; brick laid flat on a bed of sand 4 inches thick. The joints are to be filled with sand, which, including the waste, will require 1 inch, which makes 5 inches thick of sand. We pay \$1.50 per cubic yard for sand delivered; 100 times 6 equals 600, divided by 9 equals 66¾ square yards, say 67 square yards. Then by cost table for 5 inches of sand by 9 shows at \$1.50 per cubic yard will cost per square yard 20 5-6 times 67 square yards cost \$13.95 5-6.

PAVING BRICK WORK

ARTICLE No. 12. SIZES OF BRICK ABOUT 2¼x8x4 INCHES

Cost of paving brick per 1,000 delivered; also cost of brick per square yard:

Cost of brick delivered.....	\$ 8.00	\$ 8.25	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75
Cost per square yd., flat.....	.30	.31	.32	.33	.34	.35	.36	.37
Cost per square yd., edge.....	.53	.55	.56	.54	.60	.61	.63	.65
Cost of brick delivered.....	\$10.00	\$10.25	\$10.50	\$10.75	\$11.00	\$11.25	\$11.50	
Cost per square yd., flat.....	.38	.38	.39	.40	.41	.42	.43	
Cost per square yd., edge.....	.67	.68	.70	.72	.73	.75	.77	
Cost of brick delivered.....	\$12.00	\$12.50	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50
Cost per square yd., flat.....	.45	.47	.49	.51	.53	.55	.57	.58
Cost per square yd., edge.....	.80	.83	.87	.90	.93	.97	1.00	1.03
Cost of brick delivered.....	\$16.00	\$16.50	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	
Cost per square yd., flat.....	.60	.62	.64	.66	.68	.70	.72	
Cost per square yd., edge.....	1.07	1.10	1.13	1.17	1.20	1.23	1.27	

ARTICLE No. 13.

SIZES OF BRICK $2\frac{1}{2} \times 8\frac{1}{2} \times 4$ INCHES

Cost of brick delivered.....	\$ 8.00	\$ 8.25	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75
Cost per square yd., flat.....	.29	.30	.31	.32	.33	.34	.35	.36
Cost per square yd., edge.....	.52	.53	.55	.56	.58	.60	.61	.63
Cost of brick delivered.....	\$10.00	\$10.25	\$10.50	\$10.75	\$11.00	\$11.25	\$11.50	
Cost per square yd., flat.....	.37	.37	.38	.39	.40	.41	.42	
Cost per square yd., edge.....	.65	.66	.68	.69	.71	.73	.74	
Cost of brick delivered.....	\$12.00	\$12.50	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00	\$15.50
Cost per square yd., flat.....	.44	.46	.48	.49	.51	.53	.55	.57
Cost per square yd., edge.....	.78	.81	.84	.87	.91	.94	.97	1.00
Cost of brick delivered.....	\$6.00	\$16.50	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00	
Cost per square yd., flat.....	.59	.61	.62	.64	.66	.68	.70	
Cost per square yd., edge.....	1.04	1.07	1.10	1.13	1.17	1.20	1.23	

377

ARTICLE No. 14.

SIZES OF BRICK $2\frac{1}{2} \times 8\frac{1}{2} \times 4$ INCHES

Cost of brick delivered.....	\$ 8.00	\$ 8.25	\$ 8.50	\$ 8.75	\$ 9.00	\$ 9.25	\$ 9.50	\$ 9.75
Cost per square yd., flat.....	.28	.29	.30	.31	.32	.33	.34	.35
Cost per square yd., edge.....	.45	.47	.48	.49	.51	.52	.54	.55

(Continued on Page 378)

Cost of brick delivered.....	\$10.00	\$10.25	\$10.50	\$10.75	\$11.00	\$11.25	\$11.50
Cost per square yd., flat.....	.36	.36	.37	.38	.39	.40	.41
Cost per square yd., edge.....	.57	.58	.59	.61	.62	.64	.65
Cost of brick delivered.....	\$12.00	\$12.50	\$13.00	\$13.50	\$14.00	\$14.50	\$15.00
Cost per square yd., flat.....	.43	.45	.46	.48	.50	.52	.54
Cost per square yd., edge.....	.68	.71	.74	.76	.79	.82	.85
Cost of brick delivered.....	\$16.00	\$16.50	\$17.00	\$17.50	\$18.00	\$18.50	\$19.00
Cost per square yd., flat.....	.57	.59	.61	.63	.64	.66	.68
Cost per square yd., edge.....	.91	.94	.96	.99	1.01	1.05	1.08

ARTICLE No. 15.

SIZES OF BRICK $3\frac{1}{4} \times 8\frac{1}{2} \times 4$ INCHES

Cost of brick delivered.....	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00	\$13.25	\$13.50	\$13.75
Cost per square yd., flat.....	.43	.44	.45	.45	.46	.47	.48	.49
Cost per square yd., edge.....	.52	.53	.55	.56	.57	.58	.59	.60
Cost of brick delivered.....	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00	\$15.25	\$15.50	
Cost per square yd., flat.....	.50	.51	.52	.53	.54	.54	.55	
Cost per square yd., edge.....	.61	.62	.63	.64	.66	.67	.68	
Cost of brick delivered.....	\$15.75	\$16.00	\$16.25	\$16.50	\$16.75	\$17.00	\$17.50	\$18.00
Cost per square yd., flat.....	.56	.57	.58	.59	.60	.61	.63	.64
Cost per square yd., edge.....	.69	.70	.71	.72	.73	.74	.77	.79

Cost of brick delivered.....	\$18.50	\$19.00	\$19.50	\$20.00	\$20.50	\$21.00	\$21.50
Cost per square yd., flat.....	.66	.68	.70	.72	.73	.75	.77
Cost per square yd., edge.....	.81	.83	.85	.88	.90	.92	.94

ARTICLE No. 16.

SIZES OF BRICK 3x9x4 INCHES

Cost of brick delivered.....	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00	\$13.25	\$13.50	\$13.75
Cost per square yd., flat.....	.40	.41	.42	.43	.44	.45	.45	.46
Cost per square yd., edge.....	.54	.55	.56	.57	.58	.59	.60	.61

Cost of brick delivered.....	\$14.00	\$14.25	\$14.50	\$14.75	\$15.00	\$15.25	\$15.50
Cost per square yd., flat.....	.47	.48	.49	.50	.51	.51	.52
Cost per square yd., edge.....	.63	.64	.65	.66	.67	.68	.69

Cost of brick delivered.....	\$15.75	\$16.00	\$16.25	\$16.50	\$16.75	\$17.00	\$17.50	\$18.00
Cost per square yd., flat.....	.53	.54	.55	.56	.56	.57	.59	.61
Cost per square yd., edge.....	.70	.72	.73	.74	.75	.76	.78	.81

Cost of brick delivered.....	\$18.50	\$19.00	\$19.50	\$20.00	\$20.50	\$21.00	\$21.50
Cost per square yd., flat.....	.62	.64	.66	.68	.69	.71	.73
Cost per square yd., edge.....	.83	.85	.87	.90	.92	.94	.96

EXAMPLE.—Brick laid flat for walk 100x6 equals 600, divided by 9 equals 66⅔ square yards, say 67 square yards, the size of brick are about 2¼x8¼x4 inches and cost \$10.00 per 1000 delivered, then by the squaring tables of cost, Article No. 13, which shows at \$10.00 per 1,000 laid flat costs 37 cents per square yard times 67 square yards costs \$24.79 or 2,479 brick to lay 67 square yards.

See Brick Hauling.

ARTICLE No. 20.

BRICK WORK

Mixture 1 part cement, 2½ parts sand. Paving blocks on edge, 3¼x8½x4 inches, ⅓ to ⅝ joints:

Cost of cement per barrel.....	\$1.50	\$1.55	\$1.60	\$1.65	\$1.70	\$1.75	\$1.80	\$1.85
Cost per square yd. (cts.).....	.02¾	2 21-80	2 53-160	2 13-32	2 77-160	2 11-20	.02¾	.02¾
Cost of cement per barrel.....	\$1.90	\$2.00	\$2.10	\$2.25	\$2.35	2.50	\$2.75	
Cost per square yd. (cts.).....	2 31-40	2 37-40	.03¾	3 9-32	3 17-40	3 13-20	.04	

ARTICLE No. 21.

Sand cost per cubic yard; also cost per square yard. Brick sizes, 2¼x8½x4 inches, ⅓ to ⅝ joints, brick on edge:

Sand cost per cubic yd....	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00
Cost per square yd. (cts.)..	.08¼	1 1-24	.01¼	1 11-24	.01¾	2 1-12	2 7-24	.02½	.02½

ARTICLE No. 22.

Sand cost per cubic yard; also cost per square yard. Paving blocks, 3¼x8½x4 inches, ⅓ to ⅝ joints, brick on edge:

Sand cost per cubic yd....	\$1.00	\$1.25	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00
Cost per square yd. (cts.)..	.06¼	.07¾	.09¾	1 3-32	.01¼	1 13-32	.01¾	1 23-32	.01¾

ARTICLE No. 23.

BRICK WORK

Wages Labor cost mixing and grouting. Brick, $2\frac{1}{4} \times 8\frac{1}{4} \times 4$ inches, on edge:

Cost per hour.....	\$.15	\$.16	\$.17	\$.18	\$.19	\$.20	\$.21	\$.22
Cost per square yd. (cts.).....	.01½	1 3-5	1 7-10	1 4-5	1 9-10	.02	2 1-10	.02¼
Wages per hour.....	\$.23	\$.24	\$.25	\$.26	\$.27	\$.28	\$.29	\$.30
Cost per square yd. (cts.).....	2 3-10	2 2-5	.02½	2 3-5	2 7-10	2 4-5	2 9-10	.03

ARTICLE No. 24.

Labor cost mixing and grouting. Paving blocks, $3\frac{1}{4} \times 8\frac{1}{2} \times 4$ inches, on edge:

Wages per hour.....	\$.15	\$.16	\$.17	\$.18	\$.19	\$.20	\$.21	\$.22
Cost per square yd. (cts.).....	.01½	1 1-5	1 11-40	1 7-20	1 17-40	.01½	1 23-40	1 13-20
Wages per hour.....	\$.23	\$.24	\$.25	\$.26	\$.27	\$.28	\$.29	\$.30
Cost per square yd. (cts.).....	1 29-40	1 4-5	.01½	1 19-20	2 1-40	2 1-10	2 7-40	.02¼

ARTICLE No. 25.

LAYING PAVIN BRICK, $2\frac{1}{4} \times 8\frac{1}{4} \times 4$ INCHES

Labor cost laying brick walks, floors, etc., not including the grouting. Basis—one bricklayer and two helpers to supply material, etc., 10 hours per day, sand filler:

Wages combined 10 hours..	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50	\$ 9.00
Cost per square yd., flat....	.11	.12	.12	.13	.13	.14	.15	.16	
Cost per square yd., edge....	.19	.20	.20	.21	.22	.24	.25	.27	.29
Wages combined 10 hours..	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50	\$13.00	
Cost per square yd., flat....	.17	.18	.19	.20	.21	.22	.23	.24	
Cost per square yd., edge....	.30	.32	.33	.35	.37	.38	.40	.41	

ARTICLE No. 26.

BRICK WORK									
Wages combined 9 hours...	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50	\$ 9.00
Cost per square yd., flat....	.12	.12	.13	.13	.14	.15	.16	.17	.18
Cost per square yd., edge...	.21	.22	.23	.24	.25	.26	.28	.30	.32
Wages combined 9 hours...	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50	\$13.00	
Cost per square yd., flat....	.19	.20	.21	.22	.23	.24	.25	.26	
Cost per square yd., edge...	.33	.35	.37	.39	.41	.42	.44	.46	

ARTICLE No. 27.

BRICK WORK									
Wages combined 8 hours...	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50	\$ 9.00
Cost per square yd., flat....	.13	.14	.14	.15	.16	.17	.18	.19	.20
Cost per square yd., edge...	.24	.25	.26	.27	.28	.30	.32	.34	.36
Wages combined 8 hours...	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50	\$13.00	
Cost per square yd., flat....	.21	.22	.23	.25	.26	.27	.28	.29	
Cost per square yd., edge...	.38	.40	.42	.44	.46	.48	.50	.52	

BRICK WORK

ARTICLE No. 28.

LAYING PAVING BRICK, 2½x8½x4 INCHES

Labor cost laying brick walks, floors, etc., not including the grouting, sand filler. Basis—one brick-layer and two helpers to supply material, etc., 8, 9 and 10 hours per day:

Wages combined 10 hours...	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50	\$ 9.00
Cost per square yd., flat....	.10	.11	.11	.12	.12	.13	.14	.15	.16
Cost per square yd., edge...	.17	.17	.18	.19	.20	.21	.22	.24	.25

Continued on Page 384

Cost per square yd., edge...

BRICK WORK

[illegible]

BRICK WORK

Wages combined 10 hours...	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50	\$13.00
Cost per square yd., flat...	.17	.18	.19	.20	.20	.21	.22	.23
Cost per square yd., edge...	.21	.22	.23	.24	.25	.26	.27	.28

ARTICLE No. 32.

BRICK SIZES, 3¼x8½x4 INCHES

Wages combined 9 hours...	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50	\$ 9.00
Cost per square yd., flat...	.12	.12	.13	.13	.14	.15	.16	.17	.18
Cost per square yd., edge...	.15	.15	.16	.16	.17	.18	.20	.21	.22
Wages combined 9 hours...	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50	\$13.00	
Cost per square yd., flat...	.19	.20	.21	.22	.23	.24	.25	.26	
Cost per square yd., edge...	.23	.25	.26	.27	.28	.30	.31	.32	

ARTICLE No. 33.

BRICK SIZES, 3¼x8½x4 INCHES

Wages combined 8 hours...	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50	\$ 9.00
Cost per square yd., flat...	.13	.14	.14	.15	.15	.17	.18	.19	.20
Cost per square yd., edge...	.16	.17	.18	.18	.19	.20	.22	.23	.25
Wages combined 8 hours...	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50	\$13.00	
Cost per square yd., flat...	.21	.22	.23	.25	.26	.27	.28	.29	
Cost per square yd., edge...	.26	.27	.29	.30	.31	.33	.34	.36	

ARTICLE No. 34.

PAVERS, 3x9x4 INCHES

Wages combined 10 hours...	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50	\$ 9.00
Cost per square yd., flat...	.10	.10	.11	.11	.12	.12	.13	.14	.15
Cost per square yd., edge...	.13	.14	.14	.15	.15	.17	.18	.19	.20

Continued on Page 386

BRICK WORK									
Wages Combined 10 hours...	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50	\$13.00	
Cost per square yd., flat....	.17	.18	.19	.20	.20	.21	.22	.23	
Cost per square yd., edge...	.27	.28	.30	.31	.32	.34	.35	.37	
ARTICLE No. 29.									
Wages Combined 9 hours...	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50	\$ 9.00
Cost per square yd., flat....	.12	.12	.13	.13	.14	.15	.16	.17	.18
Cost per square yd., edge...	.19	.20	.20	.21	.22	.24	.25	.27	.29
Wages combined 9 hours...	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50	\$13.00	
Cost per square yd., flat....	.19	.20	.21	.22	.23	.24	.25	.26	
Cost per square yd., edge...	.30	.32	.33	.35	.37	.38	.40	.41	
ARTICLE No. 30.									
Wages combined 8 hours...	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50	\$ 9.00
Cost per square yd., flat....	.13	.13	.14	.15	.15	.16	.17	.18	.20
Cost per square yd., edge...	.21	.22	.23	.24	.25	.26	.28	.30	.32
Wages combined 8 hours...	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50	\$13.00	
Cost per square yd., flat....	.21	.22	.23	.24	.25	.26	.27	.28	
Cost per square yd., edge...	.33	.35	.37	.39	.41	.42	.44	.46	
ARTICLE No. 31.									
Wages combined 10 hours...	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50	\$ 9.00
Cost per square yd., flat....	.10	.11	.11	.12	.12	.13	.14	.15	.16
Cost per square yd., edge...	.13	.13	.14	.15	.15	.16	.17	.18	.20

Continued on Page 385

BRICK WORK

Wages combined 10 hours...	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50	\$13.00
Cost per square yd., flat....	.17	.18	.19	.20	.20	.21	.22	.23
Cost per square yd., edge...	.21	.22	.23	.24	.25	.26	.27	.28

ARTICLE No. 32.

BRICK SIZES, 3¼x8½x4 INCHES

Wages combined 9 hours...	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50	\$ 9.00
Cost per square yd., flat....	.12	.12	.13	.13	.14	.15	.16	.17	.18
Cost per square yd., edge...	.15	.15	.16	.16	.17	.18	.20	.21	.22
Wages combined 9 hours...	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50	\$13.00	
Cost per square yd., flat....	.19	.20	.21	.22	.23	.24	.25	.26	
Cost per square yd., edge...	.23	.25	.26	.27	.28	.30	.31	.32	

ARTICLE No. 33.

BRICK SIZES, 3¼x8½x4 INCHES

Wages combined 8 hours...	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50	\$ 9.00
Cost per square yd., flat....	.13	.14	.14	.15	.15	.17	.18	.19	.20
Cost per square yd., edge...	.16	.17	.18	.18	.19	.20	.22	.23	.25
Wages combined 8 hours...	\$ 9.50	\$10.00	\$10.50	\$11.00	\$11.50	\$12.00	\$12.50	\$13.00	
Cost per square yd., flat....	.21	.22	.23	.25	.26	.27	.28	.29	
Cost per square yd., edge...	.26	.27	.29	.30	.31	.33	.34	.36	

ARTICLE No. 34.

PAVERS, 3x9x4 INCHES

Wages combined 10 hours...	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.50	\$ 8.00	\$ 8.50	\$ 9.00
Cost per square yd., flat....	.10	.10	.11	.11	.12	.12	.13	.14	.15
Cost per square yd., edge...	.13	.14	.14	.15	.15	.17	.18	.19	.20

Continued on Page 386

Cost per square yd., edge...

Wages Combined 10 hours.. \$ 9.50 \$10.00 \$10.50 \$11.00 \$11.50 \$12.00 \$12.50 \$13.00										
Cost per square yd., flat.... .17 .18 .18 .19 .20 .21 .22										
Cost per square yd., edge.... .21 .22 .23 .25 .26 .27 .28 .29										
ARTICLE No. 35. PAVERS, 3x9x4 INCHES										
Wages Combined 9 hours... \$ 6.00 \$ 6.25 \$ 6.50 \$ 6.75 \$ 7.00 \$ 7.50 \$ 8.00 \$ 8.50 \$ 9.00										
Cost per square yd., flat.... .11 .11 .12 .12 .13 .14 .15 .16										
Cost per square yd., edge.... .15 .15 .16 .16 .17 .18 .20 .21 .22										
Wages combined 9 hours... \$ 9.50 \$10.00 \$10.50 \$11.00 \$11.50 \$12.00 \$12.50 \$13.00										
Cost per square yd., flat.... .17 .18 .19 .20 .21 .22 .23 .24										
Cost per square yd., edge.... .23 .25 .26 .27 .28 .30 .31 .32										
ARTICLE No. 36. PAVERS, 3x9x4 INCHES										
Wages combined 8 hours... \$ 6.00 \$ 6.25 \$ 6.50 \$ 6.75 \$ 7.00 \$ 7.50 \$ 8.00 \$ 8.50 \$ 9.00										
Cost per square yd., flat.... .12 .13 .13 .14 .14 .15 .17 .18 .19										
Cost per square yd., edge.... .17 .17 .18 .19 .20 .21 .22 .24 .25										
Wages combined 8 hours... \$ 9.50 \$10.00 \$10.50 \$11.00 \$11.50 \$12.00 \$12.50 \$13.00										
Cost per square yd., flat.... .20 .21 .22 .23 .24 .25 .26 .27										
Cost per square yd., edge.... .27 .28 .30 .31 .32 .34 .35 .37										

EXAMPLE.—We will say we have a walk or floor to lay 100 feet in length and 6 feet in width. The brick are $2\frac{1}{4} \times 8\frac{1}{4} \times 4$ inches, laid flat. We pay bricklayer \$5.00, two helpers \$4.00 per 8 hours, wages combined \$9.00, are Article No. 27, which shows cost per square yard flat, 20 5-11 cents. The number of yards are 100 times *see* divided by 9 equals 66 $\frac{2}{3}$ square yards, say 67 square yards times 20 5-11 cents equals \$13.70 5-11.

Continued on Page 387

NOTE.—The foregoing prices on labor laying walks, etc., are for small work as comes under head of "Buildings." For large work as paving streets and alleys, the price of labor would be about half the amount per square yard.

BRICK WORK

PAVING BRICK REQUIRED TO LAY WALKS, FLOORS, ETC.

1,000 Pavers, sizes $2\frac{1}{4} \times 8\frac{1}{4} \times 4$ inches, will lay on the flat.....	27	square yards
1,000 Pavers, sizes $2\frac{1}{4} \times 8\frac{1}{4} \times 4$ inches, will lay on the edge.....	15	5-13 square yards
1,000 Pavers, sizes $2\frac{1}{2} \times 8\frac{1}{2} \times 4$ inches, will lay on the flat.....	27	7-9 square yards
1,000 Pavers, sizes $2\frac{1}{2} \times 8\frac{1}{2} \times 4$ inches, will lay on the edge.....	17	$\frac{1}{2}$ square yards
1,000 Pavers, sizes $3\frac{1}{4} \times 8\frac{1}{2} \times 4$ inches, will lay on the flat.....	27	7-9 square yards
1,000 Pavers, sizes $3\frac{1}{4} \times 8\frac{1}{2} \times 4$ inches, will lay on the edge.....	22	$\frac{3}{4}$ square yards
1,000 Pavers, sizes $3 \times 9 \times 4$ inches, will lay on the flat.....	29	$\frac{3}{4}$ square yards
1,000 Pavers, sizes $3 \times 9 \times 4$ inches, will lay on the edge.....	22	2-9 square yards

ESTIMATE TABLE OF COST FOR MATERIAL AND LABOR LAYING BASEMENT FLOOR

Cellar Floor—Dimension 50 feet in width and 130 feet in length. The size brick we will use are about $2\frac{1}{4} \times 8\frac{1}{4} \times 4$ inches, which are to be laid on 3-inch bed of sand and a Portland cement filler, with mixture one part cement and two parts sand. We employ one bricklayer and three helpers, one extra helper because the coarseness of materials which makes four men to combine wages.

Continued on Page 388.

BRICK WORK NUMBER OF YARDS TO LAY

50 Feet 0 inches times 130 feet 0 inches equals 6,500 square feet, divided by 9 square feet equals 722 2-9 square yards, say 722 square yards.

COST OF MATERIAL AND LABOR

Sand cost delivered, \$1.50 per cubic yard.

Brick cost delivered, \$10.00 per 1,000, size 2 1/4x8 1/4x4 inches.

Cement cost delivered, \$2.00 per barrel.

Bricklayer's wages \$5.00 per 8 hours per day.

Laborers wages \$2.00 per 8 hours per day.

388 Sand layer or bed, 3 inches thick costs \$1.50 per cubic yard (see Article No. 3) shows cost 12 1/2 cents times 722 square yards equals.....\$ 90.25

Brick cost \$10.00 per 1,000, sizes 2 1/4x8 1/4x4 inches, flat (see Article No. 13) shows cost per square yard 37 cents times 722 square yards equals..... 267.14

Cement, Portland, cost \$2.00 per barrel; for grout (see Article No. 17), mixture 1 and 2, table shows 5 cents times 722 square yards equals..... 36.10

Sand for grout, \$1.50 per cubic yard (see Article No. 21), mixture 1 and 2, table shows 1 1/4 cents times 722 square yards equals..... 9.02 1/2

Labor, mason, \$5.00; three laborers at \$2.00 equals \$6.00 plus \$5.00 combines \$11.00 (see Article No. 27), shows cost per square yard 25 cents times 722 square yards equals..... 180.50

BRICK WORK

NOTE.—If the materials are so unhandy as to need extra man to grout (see Article No. 23), \$583.01½ equals 722 square yards times 80¾ cents equals \$583.01½. As to the foregoing prices for material and labor, it shows the cost per square yard, 80¾ cents or \$583.01½ for the whole piece of work, 722 square yards. Add profits to the above bill.

If concrete base is required, see Concrete Work.

If excavation is required, see Excavating.

If walks have sand filler instead of cement grout, add 1 inch more than bed requires, then as per cost shown on tables.

If pavers are to be hauled by you and the sizes are 3¼x8½x4 or about, figure the cost per 800 in place of 1,000 brick at the cost shown on Hauling.

BRICK WORK

BRICK WORKERS MEMORANDA

Brick—1,000 closely stacked will occupy about 56 cubic feet.

Brick—1,000 old, cleaned and loosely stacked, occupy about 74 cubic feet.

Brick—18 standard size are usually carried in a brick hod.

Brick—7 to one superficial foot of 4-inch facing, of wall measurement.

Brick—21 to one cubic foot, wall measure.

Brick—5¼ to 5½ kiln count or actual, will build one superficial foot of 4-inch wall measure, common work.

Brick—15¾ to 16½ kiln count or actual, will build one cubic foot, wall measure, common work.

Brick—750 to 800 kiln count, will build a wall measuring 1,000 standard size brick, common work.

Brick—75,000 to 80,000 actual brick will build a wall measuring 100,000 brick, common work.

Brick—1,000 Pavers, 2¼x8¼x4 inches, will lay flatwise 27 square yards.

Brick—

- Brick—1,000 Pavers, 2 1×8 $\times 4$ inches, will lay edgewise 15 5-13 square yards.
- Brick—1,000 Pavers, 2 $1 \times 8 \frac{1}{2} \times 4$ inches, will lay flatwise 27 7-9 square yards.
- Brick—1,000 Pavers, 2 $1 \times 8 \frac{1}{2} \times 4$ inches, will lay edgewise 17 $\frac{1}{2}$ square yards.
- Brick—1,000 Pavers, 3 $1 \times 8 \frac{1}{2} \times 4$ inches, will lay flatwise 27 7-9 square yards.
- Brick—1,000 Pavers, 3 $1 \times 8 \frac{1}{2} \times 4$ inches, will lay edgewise 22 $\frac{3}{4}$ square yards.
- Brick—1,000 Pavers, 2 $1 \times 8 \frac{1}{2} \times 4$ inches, weighs about 6,750 or 6 $\frac{3}{4}$ pounds per brick.
- Brick—1,000 Pavers, 3 $1 \times 8 \frac{1}{2} \times 4$ inches, weighs about 8,750 or 8 $\frac{3}{4}$ pounds per brick.
- Brick—1,000 Building brick weighs about 5,500 or 5 $\frac{1}{2}$ to 6 $\frac{1}{2}$ pounds per brick.
- Brick—1,000 Face, gauging for uniform sizes, cost 30 to 50 cents. (See Cost Table, Article No. 1).
- Brick—1,000 Common, cost delivered, \$ 6.00 to \$ 9.00; depends on competition, freight, distance of haul, etc.
- Brick—1,000 Red face, cost delivered, \$15.00 to \$22.00; depends on competition, freight, distance of haul, etc.
- Brick—1,000 Colored face, cost delivered, \$20.00 to \$30.00; depends on competition, freight, distance of haul, etc.
- Brick—1,000 Fire Brick, cost delivered, \$20.00 to \$25.00; depends on competition, freight, distance of haul, etc.
- Brick—1,000 Pavers, cost delivered, \$15.00 to \$25.00; depends on competition, freight, distance of haul, etc.
- Brick—1,000 Enameled Brick, cost delivered, \$80.00 to \$200.00; depends on shape, sizes, etc., freight, distance of haul, etc.

Estimation when not knowing the prices of brick cost same from the manufacturers before bidding

BRICK WORKERS MEMORANDA

Brick—Estimating. When not knowing the sizes, quality, etc., when convenient, get samples.
 Brick—Specifications read thoroughly, making note of each important item.
 Brick—Roman sizes are approximately $1\frac{1}{2} \times 11\frac{1}{2} \times 4$ inches.
 Brick—English sizes are approximately $3 \times 9 \times 4\frac{1}{2}$ inches.
 Brick—American or Standard sizes are approximately $2\frac{1}{4} \times 8\frac{1}{4} \times 4$ inches.
 Brick—Estimating tandard and Romans, allow 7 brick to superficial foot.
 Brick—Estimating English, allow $5\frac{1}{3}$ brick to superficial foot.
 Brick—1,000 equals 142 6-7 feet square of wall measure at 7 brick per superficial foot.
 Brick—1,000 equals $133\frac{1}{3}$ feet square of wall measure at $7\frac{1}{2}$ brick per superficial foot.
 Brick—1,000 kiln count or actual brick, requires about 3 bushels of lime.
 Brick—1,000 kiln count or actual brick, requires about $\frac{5}{8}$ cubic yard of sand.
 Brick—1,000 are usually hauled per load; some localities 1,500 when roads are good.
 Brick—1,000 per load, see Hauling Bricks.
 Brick—Salmon are a cheap soft brick used for interior walls of cheap structures.
 Brick—Building are made from clays and shale.
 Brick—Pavers, vitrified, are made from shale.
 Brick—

BRICK WORK

BRICK WORKERS MEMORANDA

Cement, Portland. One barrel weighs about 380 pounds net, 400 pounds gross.
 Cement, barrels, when empty, weigh about 20 pounds.
 Cement, Portland. Four sacks equal one barrel. One sack of cement weighs about 95 pounds net.
 Cement, Portland. Cement sacks, when empty, weigh about $1\frac{1}{2}$ pounds.
 Cement, Portland, is sold in burlap or cloth sacks which are charged 10 cents additional for the sacks.

Cement, Portland. Sacks, when returned, if shipped freight prepaid, you are allowed 10 cents less 2 cents for wear and tear.

Cement, Portland, sold in paper sacks, there is no extra charge, as they are worthless.

Cement, Portland. Cloth sacks should be safely tied in bundles of 50 each, tagged and name of sender, etc.

Cement, Portland. Shipped by rail, the number of barrels or sacks depends on capacity of cars.

Cement, Portland, shipped car capacity 30,000 pounds, will hold 75 barrels or 300 sacks in paper or cloth.

Cement, Portland, shipped car capacity 40,000 pounds, will hold 100 barrels or 400 sacks in paper or cloth.

Cement, Portland, shipped car capacity 50,000 pounds, will hold 125 barrels or 500 sacks in paper or cloth.

Cement, Portland, shipped car capacity 60,000 pounds, will hold 150 barrels or 600 sacks in paper or cloth.

Cement, Portland, shipped car capacity 70,000 pounds, will hold 175 barrels or 700 sacks in paper or cloth.

Cement, Portland, shipped car capacity 80,000 pounds, will hold 200 barrels or 800 sacks in paper or cloth.

Cement, Portland, shipped car capacity 90,000 pounds, will hold 225 barrels or 900 sacks in paper or cloth.

Cement, Portland. There are about $3\frac{1}{2}$ bushels per barrel.

Cement Hauling by wagons, Article Nos. 91, 92, 93, 94, 95 and 96.

Cement, Portland, and other cements bought in barrels, cost 10 cents additional, which are worthless when emptied.

Cement, Portland. When estimating work, requiring Portland cement, get prices from dealers.

Cement, Portland, in barrels, when packed or as you received it, when opened, contains 3 to $3\frac{1}{2}$ cubic feet.

Cement, Portland, when measured loose in box, etc., contains 4 to $4\frac{1}{4}$ cubic feet.

Cement, Portland, costs per barrel delivered; also cost of cement to lay 1,000 brick, see Article Nos. 88, 89 and 90.

Cement, Portland. To lay 1,000 brick kiln count with mixture 1 cement and 2 sand, will require about 2 barrels.

BRICK WORKERS MEMORANDA

- Cement, Portland. To lay 1,000 brick kiln count with mixture 1 cement and 3 sand will require about 1½ barrels.
- Cement, Portland. To lay 1,000 brick kiln count with mixture 1 cement and 4 sand, will require about 1 barrel.
- Cement, Portland. Cement cost depends on competition, distance to ship and haul, runs \$1.50 to \$2.25 per barrel.
- Cement, Portland, 1 part, 4 sand and 1 part of lime putty makes a strong mortar and works well.
- Cement, Portland, 1 part and 3 parts of good clean sharp sand make the best mortar for brick work.
- Cement, Portland. Plastering the exterior walls below grade, dampproofing, see tables 39, 40, 41, 42 and 43.
- Cement, Portland, English brand, contains about 3¾ cubic feet when packed.
- Cement, Portland, and other cements, keep in air-tight sheds with waterproof roofs.
- Cement, Hydraulic, Natural or Common cement, such as Louisville, Akron and Utica, weighs about 265 pounds net.
- Cement, Hydraulic, Natural or Common cement, such as Louisville, Akron and Utica, the barrels weigh about 15 pounds.
- Cement, Hydraulic, Natural or Common cement, such as Louisville, Akron and Utica, holds when packed, about 3¾ cubic feet.
- Cement, Hydraulic, Natural or Common cement, such as Rosedale, weighs about 300 pounds net barrel about 20 pounds more.
- Cement, Hydraulic or Natural cements are sold in barrels and bags, 3 sacks per barrel.
- Cement, Hydraulic or Natural cements cost per barrel, 60 cents to \$1.25; depends on freight, hauling, etc., get prices.
- Cement, Hydraulic or Natural cements cost to lay 1,000 brick, see Article Nos. 91 and 92.

Cement, Hydraulic or Natural cements, when not made too poor with sand, works very near as good as lime.
Cement, Hydraulic or Natural cements makes a strong piece of masonry.
Cement. Imported cements, namely: English and German, were used in former years, seldom now.
Cement, Portland, should be used in all masonry for buildings required to carry heavy loads.

BRICK WORK

BRICK WORKERS MEMORANDA

Damp-Proofing.

The exterior walls below grade, Portland cement, see Article Nos. 39, 40, 41 and 43.

Damp-Proofing. All foundations of residences should be damp-proofed to keep dampness out of the walls.

Damp-Proofing. The following proportions will make the best plaster: One of cement, two sand or 1 to 2½ will do.

Damp-Proofing. The plastering should be ¾ to 1-inch in thickness and allowed to thoroughly set before earth filling.

Damp-Proofing. Asphalt is frequently used, painting the hot material on walls about ¼ to ⅝ thick.

Damp-Proofing. When asphalt is used, the surface is generally covered with a 4-inch wall to protect the asphalt.

Damp-Proofing. Roofing slate is frequently used by laying a full course of slate at cellar floor level.

Estimating Brick Work, see Rules of Measurement, etc.

Estimating Brick Work, read plans and specifications carefully. Items overlooked must be paid for.

Estimating Brick Work for Cost of Labor, materials, Etc., see Index on rear of book.

Enameled Brick, Definition of Special Terms, etc., see Article on Enameled Brick work

Grinding Brick or Cutting for arches, see Article Nos. 36 and 37, includes laying.

Grouting Paving with Cement and Sand, for cost, see Article Nos. 17, 18, 19, 20, 21, 22, 23 and 24.

BRICK WORKERS MEMORANDA—HAULING BRICK.

Hauling Brick from $\frac{1}{4}$ to 5 Miles, 1,000 and 1,500 per Load.
Hauling Cement $\frac{1}{4}$ to 3 Miles, for cost, see Article Nos. 91, 92, 93, 94, 95 and 96.
Hauling Sand $\frac{1}{4}$ to 3 Miles, for cost, see Article Nos. 68 to 99.
Hoisting Brick by Two Cage Brick Hoist, see Article Nos. 75 to 85, cost per 1,000 brick.
Joints—Concave is a joint struck with a piece of round steel, $\frac{1}{4}$ to 1 inch in diameter.
Joints—V joint is struck with a piece of steel made in a V shape with the sharp edge center of joints.
Joints—Weather joints are struck with the point of trowel, the upper part of joint being deeper in.
Joints—Scratch joints are where the mortar is cut out on face $\frac{1}{2}$ to $\frac{1}{4}$ inch deep.
Joints—Beaded joints are made with a hollow piece of steel, thus forming a bead-shape joint.
Joints—Rounded joints are cut bottom and top by the use of sharp pointed tools and thin straight edge.
Joints—Flush are joints struck with the point of a trowel or what is termed trowel-pointed.
Kiln Count means the actual brick required to build a wall, which does not include mortar.
Keystone or key means the center stone or brick at the crown of an arch.
Lime is sold by the bushel and in some localities by the barrel.
Lime. A heaped bushel of lime varies in weight; lump averages about 75 pounds.
Lime. A barrel generally holds about 3 bushels.
Lime. A barrel of lime weighs 220 to 230 pounds net.
Lime. In some localities lime is sold at 80 pounds per bushel in the bulk.
Lime. When lime is allowed 80 pounds per bushel, $2\frac{1}{2}$ bushels are usually called a barrel.
Lime. When purchasing, have an understanding as to weight or measure.
Lime. It requires $2\frac{1}{2}$ to 3 bushels of lime and $\frac{5}{8}$ cubic yards sand to lay 1,000 brick, kiln count.
Lime. If $2\frac{1}{2}$ bushels of lime are figured, it must be a fine grade.
Lime. One barrel of good lump lime will lay 1,000 brick, kiln count.
Lime.

Lime. Cost per bushel and per barrel, see cost of same to lay 1,000 brick, Article No. 86.
Lime. One good mortar maker should make up in 10 hours, 40 bushels; 9 hours, 36 bushels; 8 hours, 32 bushels; this includes sand mixed.
Lime Mortar Making, Cost of Labor Making, see page 107, Article Nos. 2, 3 and 4.
Lime Cost per bushel, 20 to 30 cents or 60 to 90 cents per barrel, depends on freight, hauling, etc.
Lime. Air-slacked is worthless. Have a good air and water-proof shed or box for same.
Lime. When receiving lime in cartloads, make up same as quick as possible; increase makers.
Lime. When slacking for fine putty, should be run through a screen, if lime is lumpy.
Lime. When hot should not be used laying brick in warm weather.
Lintel. Is a horizontal bar or beam across an opening, as seen over windows or doors.

BRICK WORK

BRICK WORKERS MEMORANDA

Mortar. Is a mixture of cement, sand or lime, sand and water.
Mortar, 3 bushels or 1 barrel of lime and $\frac{5}{8}$ cubic yards of sand will lay 1,000 actual brick.
Mortar. 33 bushels or 11 barrels of lime and mixing 6 to 6 $\frac{1}{2}$ cubic yards of sand with same is a good day's work of 8 hours.
Mortar. One laborer should make enough mortar each day to keep seven or eight masons going with mortar on ordinary 13-inch walls.
Mortar should be well tempered before taken to the masons and kept tempered on the mortar boards.
Mortar made well, not too rich or poor and kept in good condition, will help masons to do better work and more of it.
Mortar made well, even though it requires a little more expense in making, is the cheapest to the contractor.
Mortar Making,—See Article on same.
Mortar Coloring, see Article on same.

BRICK WORKERS MEMORANDA

Mortar Making, cost of Labor, see Article Nos. 2, 3 and 4.
 Masonry in Freezing Weather, see Article on same.
 Natural cement is the same as Hydraulic or Common cement, see Memoranda on Hydraulic Cement.
 Purchasing Brick, the Less Cost per Thousand are not Always the Cheapest, see page 94.
 Paving Brick. Rules for Estimating Brick Pavements, Walks, Floors, etc., see page 133.
 Paving Brick, the Number Required per square yard, see page 133.
 Paving Sand, cost per cubic yard and cost per square yard, see page 134, Article Nos. 1 to 12.
 Paving, cost per thousand; also cost per square yard, see page 135, Article Nos. 12 to 16.
 Paving, Grouting. The cost of cement, sand and labor, see page 136, Article Nos. 17 to 24.
 Paving. Labor cost laying per square yard, see pages 136 and 137, Article Nos. 25 to 36.
 Receiving Face or Common Brick, see page 105.
 Rowlock is one or more courses of brick laid edgewise.
 Setting Stone Window and Door Sills, Caps, etc., see page 83, setting stone by hand.
 Skewback is the courses of brick against which brick of an arch abutt.
 Soffit is the under surface of an arch.
 Stretcher Course are brick laid so that its longest face forms the face of wall.
 Sand is generally sold by the cubic yard which is 27 cubic feet.
 Sand to make good mortar, must be clean and sharp.
 Sand for brick work generally requires screening, especially for fine work.
 Sand to lay 1,000 actual brick requires $\frac{3}{4}$ cubic yard; $\frac{1}{4}$ yard of sand will lay 1,000 face brick.
 Sand cost per cubic yard delivered at site, \$1.00 to \$2.50; depends on competition, if shipped by rail, etc.
 Sand when estimating brick, get prices for same before giving price of work unless you have it.
 Sand Cost per Cubic Yard; Also Cost of Sand to Lay 1,000 Brick, see page 121, Article No. 87.

Sand Hauling $\frac{1}{4}$ to 3 Miles, for cost, see Article Nos. 68 to 90.
 Sand. One cubic foot, dry and loose, weighs 90 to 110 pounds.
 Sand. One cubic yard, dry and loose, weighs 2,430 to 2,970 pounds.
 Sand. One cubic yard generally averages about 2,700 pounds.
 Sand. One man can readily shovel from banks or cars to wagon, 20 to 22 cubic yards in 10 hours.
 Sand. One railroad car will haul 25 to 30 cubic yards as per capacity of car.
 Wall Measure means the total feet of a wall including the mortar and overrun of brick.
 Walls. When contracting for brick work at a stated sum per 1,000 have an understanding, kiln or wall measure.

PLASTERING

RULES FOR ESTIMATING

When estimating lathing and plastering, measure from floor to ceiling for walls and partitions and from wall to wall for ceilings, which contents will be the amount in square feet, then divide by 9 square feet which gives the number of square yards.

CORNERS, ETC.

All corners and angles of more or less than 90 degrees, beads, quirks, rule joints and moldings, measure by the lineal foot on their longest extension.

Add one foot each for stops or mitres.

CORNICES

Plain cornices of two feet girt or less, measured on plans or walls, estimate by the foot lineal.

Plain cornices exceeding two feet girt, measure by the square foot and add one foot lineal by girt for each stop or mitre.

Enrich Cornices—Charge by the foot lineal for each enrichment.

PLASTERING—ARCHES, CORBELS, ETC.

Arches, Corbels, Brackets, Circles, Center Pieces, Pilasters, Columns, Capitals, Bases, Rosettes, Bosses and Pendants, charge by the piece.

OPENINGS

Openings in plastered walls, measure between the ground. No deduction should be made for openings of two feet or less in width; one-half of contents should be deducted for openings from two feet to six feet in width. The openings of more than six feet in width, deduct contents of openings less 18 inches for each jamb by the height.

CLOSETS

In closets, add one-half to the actual measurement, or if shelves are in place, charge double the measurement.

399

RAKING CEILINGS AND SOFFITS OF STAIRS

Add one-half to the measurement.

Circular or Elliptical work, double your measurement.

For domes, three times in measurement.

PLASTERING

ESTIMATING FROM PLANS, DETAILS AND SPECIFICATIONS

We should become well versed with the drawings and specifications before taking off the measurements, make a memorandum in your estimate book, name of owner or building, city or town, state, street and number, name of architects or firm, date of proposal or bid, when the work is to be completed, kind of plaster, the number of coats, if ornamental, if extra scaffolding has to be erected above the ordinary used, if material be raised by elevators and other important items of cost should be noted.

't'c. When estimating ornamental work, namely: Moldings, Cornices, Brackets, Center Pieces, Pilasters, great care should be taken not to omit any of the work, as this class of work is expensive and is very easily overlooked from a set of drawings. Very often the architect sends out their plans to be estimated from without any details, etc., to show the designs, sizes, etc. The plans may show in a small way the outlines or a small section of the work. The contractor is expected to figure the work best he can. If you are awarded the work, you are presented perhaps with a large roll of details, showing various designs and sizes and are expected to work according to them. When you made your proposal, you agreed to do the work as per plans, details and specifications, even though you had no details at the time you made up your estimate. If you complain of the details being too elaborate or different from what you had figured on the plans, your answer no doubt would be to read the specifications which calls for all work to be done according to plans, details and specifications furnished by named architects. If the work is small, it may not cost you enough to claim extra pay, but if the work is large and amounts to enough to eat up all your profits and perhaps required to take your own money to do the work, then a claim of extras should be made before proceeding with the work. If you are forced to go ahead with the work without extra pay and have very little surplus money to carry on the work, it may require you to discontinue contracting, which has happened to many trying to make a living, but being misfortunate in contracting, because of overlooking work, misjudging the actual cost to do it, something new coming before you every day which you are not thoroughly acquainted with. In other words, you need extra time in schooling yourself on the business parts connected to contracting. The writer's experience has taught him that few estimators take time enough looking over the plans and specifications, because they have become accustomed to figuring many jobs or buildings. They consider one piece of work as another, which an estimator should never allow himself to get in to this idea or practice. Never allow yourself to be hurried enough to slight time in taking off the measurements accurately. Then to know the actual cost to do the work after the measurements have been figured. When a contract is given us, the next important thing for us to do is to see the work is handled properly. To get contracts comes first; second, to

PLASTERING

Get a fair price for same; third, to handle your work to the best advantage. If you are not able to handle the mechanics, employ as good a foreman as money will get, one who will look out for your interest as well as his own and employ the best mechanics and helpers. If you have good help try and keep them steadily engaged. Workmen losing time and money discourages and causes them to take no interest in their work.

PLASTERING

Plastering of the inside walls of a building, whether brick walls or studded partitions, lathed usually, consist of two or three coat work, each coat being put on separately.

THE FIRST COAT is called the scratch or rough coat. If the plastering is to be lime mortar, then for the scratch coat on lath work, one part of lime and about four parts of sand may be used; on brick wall, the scratch coat is generally omitted. In this mortar about one-third part of hair is added. This coat is generally $\frac{3}{8}$ to $\frac{1}{4}$ inch in thickness and applied on the walls roughly which should be troweled well in between the lath. After the mortar has began to set then the plasterer proceeds to scratch the coat with a piece of wood or other material made with teeth or sharp points spaced a few inches apart, similar to a rake, which is run diagonally across each other about 2 or 4 inches apart. This scratching is done to give the second coat a firmer hold.

THE SECOND COAT is troweled on about $\frac{1}{4}$ to $\frac{3}{8}$ or to the ground, the proper thickness to receive the finish coat which is about $\frac{1}{8}$ inch. The second coat is of the same material as the scratch coat which includes hair. Before it becomes set, it is roughed over by a stiff broom, which makes more of a rough sand finish; this gives the final coat or finish, a rough surface to adhere to.

THE THIRD OR FINISH COAT which runs about $\frac{1}{8}$ inch thick and contains no hair is made of a fat mortar, composed of about one part lime putty and two parts of clean fine sharp sand. To this mortar for a harder finish, Plaster of Paris is added. Mortar made of lime and sand without the Plaster of Paris is termed stucco, finish coat with Plaster of Paris line and no sand is termed hard finish or gauge stuff; mixture one of the of Paris to two lime putty, no sand.

fects PLASTERING OF LIME MORTAR. It is generally allowed $\frac{3}{4}$ to $\frac{7}{8}$ inches in thickness; occasionally architects specify $\frac{5}{8}$ inch.

BRICK WALLS TO BE PLASTERED. The mortar joints should not be struck, but cut on rough which gives a better body for plastering to adhere to. In fact, if no cross joints were filled on the surface wall, which receives the plaster, it would make a better class of work. The open cross joints forms a key to the plaster and would not weaken the wall.

IF OLD BRICK WALLS are to be plastered which were not intended to be at the time they were built, having all the joints struck smooth, scratch out all joints at least $\frac{3}{4}$ of an inch deep and hack the face of brick with a sharp-pointed tool, giving the face a rough surface to take the plaster. The walls should be well brushed, getting all dirt, lime dust, etc., from it before plastering.

45 GROUND, ETC.

The contractor in getting ready to start plastering should go through the building finding out the conditions of building before ordering his men to it. If you start the mechanics before the work is ready, you will be working at a loss. To make progress, see that the carpenter has all his work ready for the plastering; also all lathing is done or enough ahead to keep out of the way of plasterers. It is a common occurrence in the building business to know of contractors ordering sub-contractors to start their work ordering them to employ a large crew of men, when at the same time, the general contractor has nothing ready for him. If you are not acquainted with the conditions of the work, it will pay you to find out before ordering your mechanics there to find out for you. It is true workmen do not like to pay out car fare or walk for blocks to get to a building and not be able to work when they get there.

PLASTERING

Laths are mostly made of White and Yellow Pine or Hemlock. The regular size laths are $\frac{3}{4}$ inch thick, $1\frac{1}{2}$ inches in width and 4 feet in length, which ends with center joist or studding when placed 12 or 16 inches

PLASTERING

on center. They are sold by the thousand, which comes in bundles of 50 or 100 lath per bundle. They should be nailed about $\frac{1}{4}$ inch apart as to allow the mortar to form a strong key between the lath. It requires 15 lath per square yard or 1,500 lath per 100 square yards. Lath cost per thousand \$3.50 to \$4.50 delivered; get prices from dealers before making an estimate on work. It requires about 10 pounds of 3D fine nails to lath 100 square yards when joist or studding are set 16 inches on centers. When joist or studding are set 12 inches on centers, figure 12 pounds of 3D fine nails which cost about 3 cents per pound.

A good average lather, who follows this branch of trade should lay 1,250 lath or $83\frac{1}{2}$ square yards per 8 hours. For 9 hours' work, he should lay 1,400 lath or $93\frac{1}{2}$ square yards. In 10 hours' work, he should place 1,560 lath or about 104 square yards.

LATHING, LABOR COST

THE COST OF LABOR PUTTING ON LATH depends on wages paid lathers. If you pay the men by the hour or contract it by the square yard or by the thousand lath. In some places the plasterer sublets the lathing to regular lathing contractors, who employs a number of lathers who do nothing else but lath. They generally charge so much per square yard or thousand, which openings are not deducted under a certain size (see Rules for Measuring Plastering). If you are not familiar with the general rules in the locality where the work is to be done, have an understanding with the lather before awarding him the contract. To have an understanding may save a dispute or trouble when the work is figured up and the bill presented to you. Wages paid lathers runs from 45 to 65 cents per hour, mostly 8 hours per day. In most all cities and large towns, lathers belong to unions and have a regular scale of wages the same with plasterers and in large cities, the lathers are organized with a set scale of wages. The general price per square yard runs from $3\frac{1}{2}$ to 5 cents. There are no unions where the work is to be done and you are able to get a man who laths to do the work, if that cost you about 3 cents per square yard.

LATH SHOULD HAVE JOINTS BROKEN every 6 or 7 lath and great care should be taken to have a nail

every joist or stud. Often we find places where the nails have been missed, the plasterer begins to lay the scratch coat and pays very little attention to the lathing, therefore, the mortar is put on with these missing nails which often is the cause of cracks or breaks caused by the lath buckling.

Lath should be well dampened when dry. Before the plaster is put on, dry laths absorbs so much of the water from the mortar that it effects the strength of mortar. This applies to hot weather when the weather is cool, the lath should be protected from snows and cold rains. White Pine laths are the best, but cost more per thousand than Yellow Pine or Hemlock.

WHEN LATH JOINS BRICK OR STONE. The plaster being put directly on the brick wire netting should be nailed over the joints lapping at least 9 inches on the brick and 9 inches on the lath. This is a preventive from cracks caused by shrinkage of wood in partitions. The studding should be well nailed to top and bottom plates, which should be double or 4 inches thick. The studding should be well bridged. If the exterior walls are of brick or stone, have bolts built in the walls every 3 or 4 feet in height at center of partitions, the studding joining the brick or stone walls is then bolted to the walls which stiffens the partitions; some use blocks built in walls.

PLASTERING

METAL LATHING

There are various kinds and makes of expanded metal lath; also wire lathing which are more expensive per square yard than wood lath. This lathing takes the place of wood mostly on fireproof buildings or expensive residences. In place of wood studding, metal bars are used which to these bars the metal lath are fastened. For prices of this class of work, see dealers. The cost of this material runs 15 to 20 cents per square yard and the cost of labor is $3\frac{1}{4}$ to $3\frac{1}{2}$ cents per square yard. If metal bars are used in place of studding, get prices from dealers.

Provide a good tight mortar box, say 5 or 6 feet in width, 12 or 15 feet in length and 12 to 15 inches in height. Have the box set on blockings near enough together to carry the load without sagging the box. Set the box high enough so as to receive a similar size box underneath to receive the lime after it has been slacked. The slacking or top box will have a slight pitch toward the lower box as to allow all the mortar to empty into the bottom box. All the putty used for the finish coat should be run through a wire sieve which is fastened at an opening provided for at the lower end of box to allow the putty to pass out. If the lime is of fine grade, it is not necessary to run the putty through a screen for the scratch or browning coat. The opening which the paste passes through should have a slide or end gate which can be easily lifted up to allow the unscreened putty to pass through freely. The screen should be made to a small frame, say 12 or 15 inches long and 6 to 8 inches in height about the same size for the opening in box. The same cleates or guides for the slide or gate should be made to hold screen on the inside of gate, when needed. Provide a large enough box to receive and hold the required amount of putty for the job. The lime should be slacked at least 10 days before using; the longer the putty stands the better the mortar will be. Very often we see mortar used, that the putty has not been made over two or three days; it is hot when taken from the box. There are large lumps of unslacked lime which was hurriedly run from one box to another; when taken in the hand it crumbles up as though it were air-slacked. Lime that is not thoroughly slacked before being used is sure to show when on the wall. How often we walk through a newly plastered house and find little lumps all over the work; the cause is mostly because of the lime not being slacked. If the sand is not clean and free from slate or other weak friable particles, grains coated with scales or humus, then the mortar may show pops. If you are not familiar with the sand, it is well to inquire about it, see if it is being used by other plasterers and if it gives satisfaction.

MORTAR PROPORTIONS

For scratch or browning coat, one part lime, three or four parts of sand (this depends on grade of lime

and one-fourth part of hair or we may say one barrel of lime, four barrels of sand and one-fourth barrel of hair.

For stucco, one part lime and two parts sand; no hair.

Hard finish or gauge stuff, one part of Plaster of Paris, two parts of lime; no sand.

Finish coat, quick setting and drying: Use one part of Plaster of Paris to five parts of mortar.

PLASTERING

HARD WALL PLASTERS

There are many brands of hard wall plasters throughout the United States. Some are ready to be used by tempering with water; others require the sand to be added. The cost of this material varies the same as other materials; competition, freight, etc., helps to make the difference. If the plaster is ready to be used and has to be shipped any reasonable distance, you are paying freight on sand which has been mixed with the other materials at the factory, whereby sand may be very cheap at the place where the work is to be done. Plaster that requires the sand to be added may not be any cheaper, provided, sand is expensive where the work is to be done. Laborer's wages may be some higher at your work than what it cost the manufacturer to do the mixing with sand. It is mostly mixed by machinery and cheap labor and these mills are generally located where sand is plentiful and cheap. The one advantage in using hard wall plasters is it sets much quicker than lime work; it is harder and allows the interior finish to be built in place much earlier. Lime plaster in cool weather requires two or three weeks to dry, enough to be safe to put on the wood finish. Again, the contractor does not require the room around the building to store sand and a lot of space for the lime or mortar boxes; he has not the trouble of having a lime slacker working weeks before the plastering can be started. Hard wall plastering is generally estimated from 4 to 6 cents per square yard. Higher than lime work, at the same time, I have known of contractors offering to do the work at the same price and give you

PLASTERING

Your choice of plaster. As the kind of plastering is generally specified by the architect or owners, you are expected to give prices of same, which prices of material can be had from the manufacturer or their agents.

MIXING HARD WALL PLASTER

Construct a box, say 4 feet wide, 10 feet in length and about 12 inches deep and place at the most convenient place, close to where the plastering is being done. Have plenty of water close to the box, which should be water-tight, not to allow the water and thin plaster to escape. Employ the best skilled mortar mixers in mixing the materials; allow no plaster to accumulate in the corners of the box or on the tools and never retemper any material that has set. This does not mean that droppings from the mechanics should be thrown away. Have the floors swept clean before plastering is started and the droppings can be picked up every 10 or 15 minutes and used. Mix only enough mortar at a time to keep the plasterers supplied. Have the mortar mixers pile the empty sacks up with a caution that each sack lost will cost 10 cents, which is generally charged and allowed on the return of the sacks.

LIME FOR PLASTER

There is a vast difference in qualities of limes, which are burned from limestone. The stone and burn depends on the quality. Some limes are very dark and generally a slow slacking lime which is used in brick and stone work. There is also a white lime which is called quick lime. It slacks quicker and makes a white mortar which is used for plastering. When slacking lime, great care should be taken in getting sufficient water in the box not to allow the lime to burn. As soon as the lime begins to slack, it takes water very fast.

PLASTERING

EXHIBIT No. 1.

MATERIAL BILL

Showing approximately the amount of material required to plaster 100 square yards and up, two coats coat and finish coat of lime and sand:

Number of Square Yards	Bushels of Lime	Cubic Yards of Sand	Bushels of Hair	Lath	Nails 3D Fine Joist or Stud, 12 Inches on Centers	Joist or Stud, 16 Inches on Centers
100	6	1½	1½	1,500	12 Pounds	10 Pounds
125	7½	1¾	1¾	1,875	15 Pounds	12½ Pounds
150	9	2¼	2¼	2,250	18 Pounds	15 Pounds
175	10½	2¾	2¾	2,625	21 Pounds	17½ Pounds
200	12	3	3	3,000	24 Pounds	20 Pounds
225	13½	3¾	3¾	3,375	27 Pounds	22½ Pounds
250	15	3¾	3¾	3,750	30 Pounds	25 Pounds
275	16½	4¼	4¼	4,125	33 Pounds	27½ Pounds
300	18	4½	4½	4,500	36 Pounds	30 Pounds
325	19½	4¾	4¾	4,875	39 Pounds	32½ Pounds
350	21	5¼	5¼	5,250	42 Pounds	35 Pounds
375	22½	5¾	5¾	5,625	45 Pounds	37½ Pounds
400	24	6	6	6,000	48 Pounds	40 Pounds
425	25½	6¾	6¾	6,375	51 Pounds	42½ Pounds
450	27	6¾	6¾	6,750	54 Pounds	45 Pounds
475	28½	7¼	7¼	7,125	57 Pounds	47½ Pounds
500	30	7½	7½	7,500	60 Pounds	50 Pounds
525	31½	7¾	7¾	7,875	63 Pounds	52½ Pounds
550	33	8¼	8¼	8,250	65 Pounds	55 Pounds

Continued on Page 409.

Square Yard	of Lime	or Sand	of Hair	Lath	or Stud, 12 Inches on Centers	Inches on Center
575	34½	8½	8½	8 625	69 Pounds	57½ Pounds
600	36	9	9	9 000	72 Pounds	60 Pounds
625	37½	9½	9½	9,375	75 Pounds	62½ Pounds
650	39	9¾	9¾	9,750	78 Pounds	65 Pounds
675	40½	10½	10½	10,125	81 Pounds	67½ Pounds
700	42	10½	10½	10,500	84 Pounds	70 Pounds
725	43½	10¾	10¾	10,875	87 Pounds	72½ Pounds
750	45	11¼	11¼	11,250	90 Pounds	75 Pounds
775	46½	11½	11½	11,625	93 Pounds	77½ Pounds
800	48	12	12	12,000	96 Pounds	80 Pounds
825	49½	12¾	12¾	12,375	99 Pounds	82½ Pounds
850	51	12¾	12¾	12,750	102 Pounds	85 Pounds
875	52½	13½	13½	13,125	105 Pounds	87½ Pounds
900	54	13½	13½	13,500	108 Pounds	90 Pounds
925	55½	13¾	13¾	13,875	111 Pounds	92½ Pounds
950	57	14¼	14¼	14,250	114 Pounds	95 Pounds
975	58½	14½	14½	14,625	117 Pounds	97½ Pounds
1,000	60	15	15	15,000	120 Pounds	100 Pounds
1,000	120	30	30	30,000	240 Pounds	200 Pounds
2,000	180	45	45	45,000	360 Pounds	300 Pounds
3,000	240	60	60	60,000	480 Pounds	400 Pounds

5,000	300	75	75	600 Pounds	500 Pounds
6,000	360	90	90	720 Pounds	600 Pounds
7,000	420	105	105	840 Pounds	700 Pounds

PLASTERING

MATERIAL BILL

ARTICLE No. 1.

Showing approximately the amount of material required to plaster 100 square yards and up, two coat or one coat and finish coat of lime and sand:

Number of Square Yards	Bushels of Lime	Cubic Yards of Sand	Bushels of Hair	Lath	Nails 3D Fine Joist or Stud 12 Inches on Center	Nails 3D Fine Joist or Stud 16 Inches on Center
8,000	480	118	120	120,000	960 Pounds	800 Pounds
9,000	540	133	135	135,000	1,080 Pounds	900 Pounds
10,000	600	148	150	150,000	1,200 Pounds	1,000 Pounds
11,000	660	162	165	165,000	1,320 Pounds	1,100 Pounds
12,000	720	177	180	180,000	1,440 Pounds	1,200 Pounds
13,000	780	192	195	195,000	1,560 Pounds	1,300 Pounds
14,000	840	207	210	210,000	1,680 Pounds	1,400 Pounds
15,000	900	222	225	225,000	1,800 Pounds	1,500 Pounds
16,000	960	237	240	240,000	1,920 Pounds	1,600 Pounds
17,000	1,020	251	255	255,000	2,040 Pounds	1,700 Pounds
18,000	1,080	266	270	270,000	2,160 Pounds	1,800 Pounds
19,000	1,140	281	285	285,000	2,280 Pounds	1,900 Pounds

Continued on Page 411.

Number of Square Yards	Bushels of Lime	Cubic Yards of Sand	Bushels of Hair	Lath	Nails 3D Fine Joist or Stud, 12 Inches on Center	Nails 3D Fine Joist or Stud 16 Inches on Center
20,000	1,200	296	300	300,000	2,400 Pounds	2,000 Pounds
21,000	1,260	311	315	315,000	2,520 Pounds	2,100 Pounds
22,000	1,320	325	330	330,000	2,640 Pounds	2,200 Pounds
23,000	1,380	340	345	345,000	2,760 Pounds	2,300 Pounds
24,000	1,440	355	360	360,000	2,880 Pounds	2,400 Pounds
25,000	1,500	370	375	375,000	3,000 Pounds	2,500 Pounds
26,000	1,560	385	390	390,000	3,120 Pounds	2,600 Pounds
27,000	1,620	400	405	405,000	3,240 Pounds	2,700 Pounds
28,000	1,680	414	420	420,000	3,360 Pounds	2,800 Pounds
29,000	1,740	429	435	435,000	3,480 Pounds	2,900 Pounds
30,000	1,800	444	450	450,000	3,600 Pounds	3,000 Pounds
31,000	1,860	459	465	465,000	3,720 Pounds	3,100 Pounds
32,000	1,920	474	480	480,000	3,840 Pounds	3,200 Pounds
33,000	1,980	488	495	495,000	3,960 Pounds	3,300 Pounds
34,000	2,040	503	510	510,000	4,080 Pounds	3,400 Pounds
35,000	2,100	518	525	525,000	4,200 Pounds	3,500 Pounds
36,000	2,160	533	540	540,000	4,320 Pounds	3,600 Pounds
37,000	2,220	548	555	555,000	4,440 Pounds	3,700 Pounds
38,000	2,280	562	570	570,000	4,560 Pounds	3,800 Pounds
39,000	2,340	577	585	585,000	4,680 Pounds	3,900 Pounds

Continued on Page 412

40,000	2,400	592	600	600,000	4,800 Pounds	4,000 Pounds
45,000	2,700	666	675	675,000	5,400 Pounds	4,500 Pounds
50,000	3,000	740	750	750,000	6,000 Pounds	5,000 Pounds

NOTE.—The foregoing material shows the amount approximately required of lime, sand, hair and nails for 100 to 50,000 square yards. In order to use the table, the lath work must be kept separate from wall plastering. For example: We will say we have 900 square yards of two-coat work on brick and 3,000 square yards of lath work, which is two coats, thereby table:

3,000 SQUARE YARDS LATH

3,000 Square yards lime, 180 bushels.
 3,000 Square yards sand, 45 cubic yards.
 3,000 Square yards, 4500 lath.
 3,000 Square yards hair, 45 bushels.
 3,000 Square yards nails, 300 pounds 16-inch on center

900 SQUARE YARDS ON BRICK, TWO COATS

900 Square yards lime, 54 bushels.
 900 Square yards sand, 13½ cubic yards.
 900 Square yards hair, 13½ bushels.

Multiply amount of material by cost you are to pay and add the total of all, which give cost of all material, of 3,900 square yards.

PLASTERING

ARTICLE No. 2.

Material Bill showing approximately the amount of material required to plaster 100 to 50,000 square yards:

See Table on Page 413

THREE COAT WORK

No. of Square Yards	Bushels of Lime	Bushels of Lime	Cubic Yards of Sand	Cubic Yards of Sand	Pounds of Plaster of Paris	Nails 3D Fine Joist or Stud 12 Inch on Center	Nails 3D Fine Joist or Stud 16 Inch on Center	Lath by 1,000	Bin. of Hair
100	10	8	2	1	100	12 Lbs.	10 Lbs.	1,500	1½
125	12½	10	2½	2	125	15 Lbs.	12½ Lbs.	1,875	1¾
150	15	12	3	2	150	18 Lbs.	15 Lbs.	2,250	2¼
175	17½	14	3½	2	175	21 Lbs.	17½ Lbs.	2,625	2⅝
200	20	16	4	3	200	24 Lbs.	20 Lbs.	3,000	3
225	22½	18	4½	3	225	27 Lbs.	22½ Lbs.	3,375	3¾
250	25	20	5	4	250	30 Lbs.	25 Lbs.	3,750	3¾
275	27½	22	5½	4	275	33 Lbs.	27½ Lbs.	4,125	4½
300	30	24	6	4	300	36 Lbs.	30 Lbs.	4,500	4½
325	32½	26	6½	5	325	39 Lbs.	32½ Lbs.	4,875	4¾
350	35	28	7	5	325	42 Lbs.	35 Lbs.	5,250	5¼
375	37½	30	7½	6	375	45 Lbs.	37½ Lbs.	5,625	5½
400	40	32	8	6	400	48 Lbs.	40 Lbs.	6,000	6
425	42½	34	8½	6	425	51 Lbs.	42½ Lbs.	6,375	6¾
450	45	36	9	7	450	54 Lbs.	45 Lbs.	6,750	6¾
					Hd. Fin. Plaster of Paris and Putty, no Sand				
Plastering on Brick Walks—3 Coats					Plastering on Late—3 Coats				
Plastering on Lath—3 Coats									
Plastering on Brick Walks—3 Coats									

THREE COAT WORK

No. of Square Yards	Bushels of Lime	Bushels of Lime	Cubic Yards of Sand	Cubic Yards of Sand	Pounds of Plaster of Paris	Nails 3D Fine Joist or Stud 12 Inch on Center	Nails 3D Fine Joist or Stud 16 Inch on Center	Lath by 1,000	Bu. of Hair
475	47½	38	9½	7	475	57 Lbs.	47½ Lbs.	7,125	7½
500	50	40	10	8	500	60 Lbs.	50 Lbs.	7,500	7½
525	52½	42	10½	8	525	63 Lbs.	52½ Lbs.	7,875	7½
550	55	44	11	8	550	66 Lbs.	55 Lbs.	8,250	8¼
575	57½	46	11½	9	575	69 Lbs.	57½ Lbs.	8,625	8½
600	60	48	12	9	600	72 Lbs.	60 Lbs.	9,000	9
625	62½	50	12½	10	625	75 Lbs.	62½ Lbs.	9,375	9½
650	65	52	13	10	650	78 Lbs.	65 Lbs.	9,750	9¾
675	67½	54	13½	11	675	81 Lbs.	67½ Lbs.	10,125	10½
700	70	56	14	11	700	84 Lbs.	70 Lbs.	10,500	10½
725	72½	58	14½	11	725	87 Lbs.	72½ Lbs.	10,875	10¾
750	75	60	15	12	750	90 Lbs.	75 Lbs.	11,250	11¼
775	77½	62	15½	12	775	93 Lbs.	77½ Lbs.	11,625	11½
800	80	64	16	13	800	96 Lbs.	80 Lbs.	12,000	12
825	82½	66	16½	13	825	99 Lbs.	82½ Lbs.	12,375	12¾
850	85	68	17	13	850	102 Lbs.	85 Lbs.	12,750	12¾
875	87½	70	17½	14	875	105 Lbs.	87½ Lbs.	13,125	13¼

THREE COAT WORK

No. of Square Yards	Bushels of Lime	Bushels of Lime	Cubic Yards of Sand	Cubic Yards of Sand	Pounds of Plaster of Paris	Nails 3D Fine Joist or Stud 12 Inch on Center	Nails 3D Fine Joist or Stud 16 Inch on Center	Lath by 1,000	Bu. of Hair
900	90	72	18	14	900	108 Lbs.	90 Lbs.	13,500	13½
925	92½	74	18½	15	925	111 Lbs.	92½ Lbs.	13,875	13¾
950	95	76	19	15	950	114 Lbs.	95 Lbs.	14,250	14¼
975	97½	78	19½	15	975	117 Lbs.	97½ Lbs.	14,625	14½
1,000	100	80	20	16	1,000	120 Lbs.	100 Lbs.	15,000	15
2,000	200	160	40	32	2,000	240 Lbs.	200 Lbs.	30,000	30
3,000	300	240	60	48	3,000	360 Lbs.	300 Lbs.	45,000	45
4,000	400	320	80	65	4,000	480 Lbs.	400 Lbs.	60,000	60
5,000	500	400	100	81	5,000	600 Lbs.	500 Lbs.	75,000	75
6,000	600	480	120	97	6,000	720 Lbs.	600 Lbs.	90,000	90
7,000	700	560	140	114	7,000	840 Lbs.	700 Lbs.	105,000	105
8,000	800	640	160	130	8,000	960 Lbs.	800 Lbs.	120,000	120
9,000	900	720	180	146	9,000	1,080 Lbs.	900 Lbs.	135,000	135
10,000	1,000	800	200	162	10,000	1,200 Lbs.	1,000 Lbs.	150,000	150
11,000	1,100	880	220	179	11,000	1,320 Lbs.	1,100 Lbs.	165,000	165
12,000	1,200	960	240	195	12,000	1,440 Lbs.	1,200 Lbs.	180,000	180
13,000	1,300	1,040	260	211	13,000	1,560 Lbs.	1,300 Lbs.	195,000	195

THREE COAT WORK

No. of Square Yards	Bushels of Lime	Bushels of Lime	Cubic Yards of Sand	Cubic Yards of Sand	Pounds of Plaster of Paris	Nails 3D Fine Joists or Stud 12 In. on Center	Nails 3D Fine Joists or Stud 16 In. on Center	Lath by 1,000	Bu. of Hair
14,000	1,400	1,120	280	228	14,000	1,680 Lbs.	1,400 Lbs.	210,000	210
15,000	1,500	1,200	300	244	15,000	1,800 Lbs.	1,500 Lbs.	225,000	225
16,000	1,600	1,280	320	260	16,000	1,920 Lbs.	1,600 Lbs.	240,000	240
17,000	1,700	1,360	340	277	17,000	2,040 Lbs.	1,700 Lbs.	255,000	255
18,000	1,800	1,440	360	293	18,000	2,160 Lbs.	1,800 Lbs.	270,000	270
19,000	1,900	1,520	380	309	19,000	2,280 Lbs.	1,900 Lbs.	285,000	285
20,000	2,000	1,600	400	325	20,000	2,400 Lbs.	2,000 Lbs.	300,000	300
21,000	2,100	1,680	420	342	21,000	2,500 Lbs.	2,100 Lbs.	315,000	315
22,000	2,200	1,760	440	358	22,000	2,640 Lbs.	2,200 Lbs.	330,000	330
23,000	2,300	1,840	460	374	23,000	2,760 Lbs.	2,300 Lbs.	345,000	345
24,000	2,400	1,920	480	391	24,000	2,880 Lbs.	2,400 Lbs.	360,000	360
25,000	2,500	2,000	500	407	25,000	3,000 Lbs.	2,500 Lbs.	375,000	375
26,000	2,600	2,080	520	423	26,000	3,120 Lbs.	2,600 Lbs.	390,000	390
27,000	2,700	2,160	540	440	27,000	3,240 Lbs.	2,700 Lbs.	405,000	405
28,000	2,800	2,240	560	456	28,000	3,360 Lbs.	2,800 Lbs.	420,000	420
29,000	2,900	2,320	580	472	29,000	3,480 Lbs.	2,900 Lbs.	435,000	435
30,000	3,000	2,400	600	488	30,000	3,600 Lbs.	3,000 Lbs.	450,000	450
31,000	3,100	2,480	620	505	31,000	3,720 Lbs.	3,100 Lbs.	465,000	465

THREE COAT WORK

No. of Square Yards	Bushels of Lime	Bushels of Lime	Cubic Yards of Sand	Cubic Yards of Sand	Pounds of Plaster of Paris	Nails 3D Rint Joists or Stud 12 in. on Center	Nails 3D Fine Joists or Stud 16 in. on Center	Lath by 1000	Bu. of Hair
32,000	3,200	2,560	640	521	32,000	3,840 Lbs.	3,200 Lbs.	480,000	480
33,000	3,300	2,640	660	537	33,000	3,960 Lbs.	3,300 Lbs.	495,000	495
34,000	3,400	2,720	680	554	34,000	4,080 Lbs.	3,400 Lbs.	510,000	510
35,000	3,500	2,800	700	570	35,000	4,200 Lbs.	3,500 Lbs.	525,000	525
36,000	3,600	2,880	720	586	36,000	4,320 Lbs.	3,600 Lbs.	540,000	540
37,000	3,700	2,960	740	602	37,000	4,440 Lbs.	3,700 Lbs.	555,000	555
38,000	3,800	3,040	760	619	38,000	4,560 Lbs.	3,800 Lbs.	570,000	570
39,000	3,900	3,120	780	635	39,000	4,680 Lbs.	3,900 Lbs.	585,000	585
40,000	4,000	3,200	800	651	40,000	4,800 Lbs.	4,000 Lbs.	600,000	600
41,000	4,100	3,280	820	668	41,000	4,920 Lbs.	4,100 Lbs.	615,000	615
42,000	4,200	3,360	840	684	42,000	5,040 Lbs.	4,200 Lbs.	630,000	630
43,000	4,300	3,440	860	700	43,000	5,160 Lbs.	4,300 Lbs.	645,000	645
44,000	4,400	3,520	880	717	44,000	5,280 Lbs.	4,400 Lbs.	660,000	660
45,000	4,500	3,600	900	733	45,000	5,400 Lbs.	4,500 Lbs.	675,000	675
46,000	4,600	3,680	920	749	46,000	5,520 Lbs.	4,600 Lbs.	690,000	690
47,000	4,700	3,760	940	765	47,000	5,640 Lbs.	4,700 Lbs.	705,000	705
48,000	4,800	3,840	960	782	48,000	5,760 Lbs.	4,800 Lbs.	720,000	720
49,000	5,000	4,000	1,000	814	50,000	6,000 Lbs.	5,000 Lbs.	750,000	750

Plastering on Lath—3 Coats
 Plastering on Brick Walls—3 Coats
 Plastering on Lath—3 Coats
 Hd. Fin. Plaster of Paris and Putty, No Sand

ARTICLE No. 3. PLASTERING COST OF LABOR LATHING

Wood Lathing, size of lath, $\frac{1}{4}$ "x1 $\frac{1}{2}$ "x4 feet in length, $\frac{3}{8}$ inch apart:
(8 Hours per day).

Lather's wages.....	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50
Cost per square yd. (cts.)....	3 4-7	3 6-7	4 1-7	4 3-7	4 5-7	.05	5 2-7
Cost per 100 square yds.....	\$3.57	\$3.86	\$4.14	\$4.43	\$4.71	\$5.00	\$5.28
Lather's wages.....	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	
Cost per square yd. (cts.)....	5 4-7	5 6-7	6 1-7	6 3-7	6 5-7	.07	
Cost per 100 square yds.....	\$5.57	\$5.85	\$6.14	\$6.43	\$6.71	\$7.00	

ARTICLE No. 4. COST OF LABOR LATHING

(8 Hours per day).

Lather's wages.....	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50
Cost per square yd. (cts.)....	3 9-47	3 43-94	3 34-47	3 93-94	4 12-47	4 49-94	4 37-47
Cost per 100 square yds.....	\$3.19 7-47	\$3.45 35-47	3.72 16-47	3.98 44-47	4.25 25-47	4.52 6-47	4.78 34-47
Lather's wages.....	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	
Cost per square yd. (cts.)....	5 5-94	5 15-47	5 55-94	5 40-47	6 11-94	6 18-47	
Cost per 100 square yds.....	\$5.05 15-47	5.31 43-47	5.58 24-47	5.85 5-47	6.11 33-47	6.38 14-47	

ARTICLE No. 5.

COST OF LABOR LATHING

(10 Hours per day).

Lather's wages.....	\$2.50	\$2.75	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00
Cost per square yd. (cts.)....	2 21-52	2 67-104	2 23-26	3 13-104	3 19-52	3 63-104	3 11-13
Cost per 100 square yds.	\$2.40 5-13	2.64 11-26	2.88 6-13	3.12½	3.36 7-13	3.60 15-26	3.84 8-13
Lather's wages.....	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	
Cost per square yd. (cts.)....	4 9-104	4 17-52	4 59-104	4 21-26	5 5-104	5 15-52	
Cost per 100 square yds.	\$4.08 17-26	4.32 9-13	4.56 19-26	4.80 10-13	5.04 21-26	5.28 11-13	

ARTICLE No. 6.

COST OF LATH PER THOUSAND DELIVERED; ALSO COST PER ONE SQUARE YARD AND ONE

HUNDRED SQUARE YARDS

Cost of lath, 1,000 delivered..	\$3.00	\$3.10	\$3.25	\$3.35	\$3.50	\$3.60	\$3.75
Cost per square yd. (cts.)....	.04½	4 13-20	4 87-100	5 1-50	.05¼	5 2-5	5 31-50
Cost per 100 square yds.	\$4.50	4.65	4.87	5.02	5.25	5.40	5.62
Cost per lath, 1,000 delivered..	\$3.85	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	
Cost per square yd. (cts.)....	5 77-100	.06	6 37-100	.06¾	7 3-25	.07½	
Cost per 100 square yds.	\$5.77	6.00	6.37	6.75	7.12	7.50	

ARTICLE No. 7.

COST OF LATHER'S NAILS PER POUND; ALSO COST PER ONE HUNDRED SQUARE YARDS

(Joist or Stud, 12 inches on center).					
Cost of 3D fine nails, lb. (cts.).	.02	.02 1/4	.02 1/2	.03	.03 1/4
Cost per 100 square yds. (cts.).	.24	.27	.30	.36	.39
Cost of 3D fine nails, lb. (cts.).	.03 3/4	.04	.04 1/4	.04 3/4	.05
Cost per 100 square yds. (cts.).	.45	.48	.51	.57	.60

ARTICLE No. 8.

COST OF LATHER'S NAILS PER POUND; ALSO COST PER ONE HUNDRED SQUARE YARDS

(Joist or Stud, 16 inches on center).					
Cost of 3D fine nails, lb. (cts.).	.02	.02 1/4	.02 1/2	.03	.03 1/4
Cost per 100 square yds. (cts.).	.20	.22 1/2	.25	.30	.32 1/2
Cost of 3D fine nails, lb. (cts.).	.03 3/4	.04	.04 1/4	.04 3/4	.05
Cost per 100 square yds. (cts.).	.37 1/2	.40	.42 1/2	.47 1/2	.50

ARTICLE No. 9.

COST OF PLASTERING MATERIALS

Lime cost per bushel delivered; also cost per 100 square yards, two coat work:

Lime cost per bushel (cts.)...	.20	.21	.22	.23	.24	.25	.26
Cost per 100 square yds.	\$1.20	\$1.26	\$1.32	\$1.38	\$1.44	\$1.50	\$1.56
Lime cost per bushel (cts.)...	.27	.28	.29	.30	.31	.32	
Cost per 100 square yds.	\$1.62	\$1.68	\$1.74	\$1.80	\$1.86	\$1.92	

PLASTER ON BRICK WALLS

Lime cost per bushel delivered; also cost per 100 square yards, three coat work:					
Lime cost per bushel (cts.)...	.20	.21	.22	.23	.24
Cost per 100 square yds.	\$2.00	\$2.10	\$2.20	\$2.30	\$2.40
Lime cost per bushel (cts.)...	.27	.28	.29	.30	.31
Cost per 100 square yds.	\$2.70	\$2.80	\$2.90	\$3.00	\$3.10

ARTICLE No. 11.

PLASTER ON LATH

Lime cost per bushel delivered; also cost per 100 square yards, three coat work:					
Lime cost per bushel (cts.)...	.20	.21	.22	.23	.24
Cost per 100 square yds.	\$1.60	\$1.68	\$1.76	\$1.84	\$1.92
Lime cost per bushel (cts.)...	.27	.28	.29	.30	.31
Cost per 100 square yds.	\$2.16	\$2.24	\$2.32	\$2.40	\$2.48

NOTE.—The last coat is figured Skim Coat, Lime and Sand.

PLASTERING

ARTICLE No. 12.

COST OF PLASTERING MATERIALS

Sand cost per cubic yard delivered; also cost per 100 square yards of two coat work:					
Sand cost per cubic yd.	\$1.00	\$1.05	\$1.10	\$1.15	\$1.20
Sand cost per 100 square yds.	1.48	1.55	1.62	1.70	1.77
Cost per cubic yd.	\$1.40	\$1.45	\$1.50	\$1.55	\$1.60
Cost per 100 square yds.	2.07	2.14	2.22	2.29	2.36

ARTICLE No. 13.

Sand cost per cubic yard delivered; also cost per 100 square yards, three coats on brick walls:

Sand cost per cubic yd.....	\$1.00	\$1.05	\$1.10	\$1.15	\$1.20	\$1.25	\$1.30	\$1.35
Cost per 100 square yds.....	2.00	2.10	2.20	2.30	2.40	2.50	2.60	2.70
Sand cost per cubic yd.....	1.40	1.45	1.50	1.75	2.00	2.25	2.50	
Cost per 100 square yds.....	2.80	2.90	3.00	3.50	4.00	4.50	5.00	

ARTICLE No. 14.

Sand cost per cubic yard delivered; also cost per 100 square yards, three coats on lath:

Sand cost per cubic yd.....	\$1.00	\$1.05	\$1.10	\$1.15	\$1.20	\$1.25	\$1.30	\$1.35
Cost per 100 square yds.....	1.62	1.71	1.79	1.87	1.95	2.03	2.11	2.20
Sand cost per cubic yd.....	1.40	1.45	1.50	1.75	2.00	2.25	2.50	
Cost per 100 square yds.....	2.28	2.36	2.44	2.85	3.25	3.66	4.07	

ARTICLE No. 15.

Hair cost per bushel delivered; also cost per 100 square yards:

Hair cost per bushel.....	\$.20	\$.21	\$.22	\$.23	\$.24	\$.25	\$.26	\$.27
Cost per 100 square yds.....	.30	.31½	.33	.34½	.36	.37½	.39	.40½
Hair cost per bushel.....	.28	.29	.30	.31	.32	.35	.40	
Cost per 100 square yds.....	.42	.43½	.45	.46½	.48	.52½	.60	

Hair usually comes in paper bags and contains about one bushel. When beat out, it weighs approximately 8 pounds, which requires about 12 pounds per 100 square yards.

ARTICLE No. 16.

Plaster of Paris, Hard Finish, cost per 100 pounds; also cost per 100 square yards:

Cost per 100 pounds.....	\$.30	\$.31	\$.32	\$.33	\$.34	\$.35	\$.36	\$.37
Cost per square yd.....	.30	.31	.32	.33	.34	.35	.36	.37
Cost per 100 pounds.....	.38	.39	.40	.45	.50	.55	.60	
Cost per square yd. ....	.38	.39	.40	.45	.50	.55	.60	

PAINTING AND GLAZING

Painting is estimated by the superficial yard, girting every part of the work that is covered by paint and allowing an addition to the actual surface for the requirement of covering deep moldings, carved or enriched surfaces. Allowances to be made for distance from the ground or floors, as on Cornices, Balconies, Dormers, Domes, etc., in fact any parts painted which requires swinging stage or scaffolding.

Charge for each coat of paint put on, at a fixed price per superficial yard per coat, adding the number of coats and cost per each coat together.

SECTION No. 1.

The customary rules of measurement, which are considered a fair average, are suggested as being equitable and just to both contractor and owner and a reliable standard of valuation.

All surfaces less than 6 inches wide or girt measure as 6 inches.

All surfaces over 6 inches and less than 12 inches, measure as 12 inches.

All surfaces over 12 inches, measure superficial yard.

SECTION No. 2.—OPENINGS.

All openings, deducted net, and all jambs and reveals measured as per Section No. 1.

SECTION No. 3—WINDOW SASH.

Window Sash—When there are more than two lights, measure as if solid. Two and single light sash, measure as Section No. 1.

SECTION No. 4—DOORS, paneled shutters, etc.

Girt in and out of panel both ways and add one edge to each side of door or shutter. Measure sash doors as solid.

For Batton doors, girt over battons for height and if beaded material, add 1 inch in width for each bead.

SECTION No. 5.

Measure Venetian blinds or shutters as if square plain panels and add one hundred per cent for labor of working in the slats, etc.

SECTION No. 6.

Measure all Architraves, Casings, Jambs, Base, Cornices and similar molded work by girting every part of the work, covered add per foot superficial, net the amount of such work. Girt Dentil Work.

SECTION No. 7.

For Consoles, Medallions, Brackets, Cantilevers, Ornamental Iron Work, Balusters, Lattice Work and Paling or Balustrade Fences, girt in each direction and add one hundred per cent to prices of plain work.

SECTION No. 8.

All "pieced out" work to be valued by the measurer according to amount of labor required and all work not specified in preceding rules, to be rated at an average of rates for other work.

For change of colors on panel work, cornices, washboards, etc., add one-fifth for each tint used. On railings or picket fences, if the tops are painted different color from the rest of the fence, add 6 inches to height of fence

SECTION No. 10.

For knotting, puttying and cleaning off each coat with sand paper, add five per cent to prices of plain work. For cutting down with pumice stone and water, add ten per cent.

PAINTING

42 The principal material used in house painting is white lead or oxide of zinc, ground in raw Linseed Oil
55 which is sold in kegs of 25, 50 and 100 pounds. To prepare it for actual use, merely requires the adding of more Linseed Oil, say 4 pints to 10 pounds of the keg paint, thus thinning it as to flow easily from the brush.

NUMBER OF COATS

Each coat must be thoroughly dry before the next one is put on. As raw Linseed Oil is used mostly given. for thinning, dryers should be added to it. If not, the paint may require weeks to harden. If dryers are used for two days are required, which depends on the weather. The dryers mostly used are powdered Litharge, one of a teaspoonful to 10 pounds of the keg paint which must be thoroughly mixed; some use Japan varnish, a about of Lead or Sulphate of Zinc. If Painter's Boiled Oil is used for thinning, then the named dryers are Sugar required as the oil has a dryer prepared in it. In using the Boiled Oil makes the paint work more heavier than Turpentine. Another liquid which is much used in thinning oil is Spirits of Turpentine which makes the paint more freely.

not to
be
used
freely

COLORING PAINTS

The White Lead is used for white coloring when other colors are used. The coloring is mixed with the white paint. The following materials are used for various shades or colors of paint: Red Lead, Venetian Red, Indigo, Lampblack, Terra Sienna, Umber, Ochre, Chrome Yellow, etc., which are prepared in oils and lead ready for use or can be mixed by the painters at the work.

All work to be painted should be thoroughly dry and free as possible from dust. If on wood interior finish all plane marks, etc., should first be smoothed off by sand paper. When a first-class piece of work is to be done, all nail heads should be set with a punch deep enough to take a good hold of putty. To prevent knots from showing through the surface, as generally comes in White or Yellow Pine, which has more or less turpentine; to kill the turp knots paint over same with a couple coats of Shellac varnish, then when dry, smooth with sand paper, then proceed to give the work the first coat which is termed the "priming coat", composed of White Lead and raw Linseed Oil. Use no turpentine, because the wood absorbs it all from the White Lead thus making the first coat or priming, we may say worthless. Oil costs more, but is the cheapest at the end To satisfy the owners, good material must be used and first-class workmen employed.

PAINTING AND GLAZING

In mixing paints, it generally requires a practical painter, especially when there are various shades to be used and the paints have to be mixed at the building. Most all colors of paints can be purchased from

of paints are mixed by the painters on their work. Painting is as in all other trades—there are poor and good mechanics. There are many painters working at the trade who cannot mix paint properly. To be able to use the brush does not signify the man is practical; he may be able to paint as much surface in a day as a Practical painter, but his work may not be done as well and besides everything in his reach is daubed up with paint, in fact, there is as much paint wasted as goes on the work.

COLORS FOR PAINTS MIXED TOGETHER WITH LEAD, OILS, ETC.

SHADE REQUIRED	NAME OF COLORINGS (Mix Together Each in Proportion as Required for Shade)			
	White.....	Yellow Ochre.....	Red.	
BUFF.....	Red.....	Black.....	Yellow Ochre.	
CHESTNUT.....	Raw Umber.....	Red.....	Black.	
CHOCOLATE.....	Red.....	Raw Umber.....	Black.	
CHERRY.....	Red.....	Yellow Ochre.....	Black.	
CLAY.....	White.....	Vermilion.....	Blue and Yellow.	
COPPER.....				

Continued on Page 428.

DO NOT

DRAB.....	White.....	Yellow Ochre.....	Red and Black.
FAWN.....	White.....	Yellow Ochre.....	Red.
FLESH.....	White.....	Yellow Ochre.....	Vermilion.
FREE STONE.....	Red and Black.....	Yellow Ochre.....	Vermilion.
FRENCH GRAY.....	White.....	Prussian Blue.....	Lake.
GREY.....	White Lead.....	Black.....	.....
GOLD.....	White.....	Stone Ochre.....	Red.
GREEN BRONZE.....	Chrome Green.....	Black.....	Yellow.
LEMON.....	White.....	Chrome Yellow.....	.....
LIMESTONE.....	White.....	Yellow Ochre.....	Black and Red.
OLIVE.....	Yellow, Blue.....	Black.....	White.
ORANGE.....	Yellow.....	Red.....	.....
PEACH.....	White.....	Vermilion.....	.....
PEARL.....	White.....	Black.....	Blue.
PURPLE.....	Violet.....	Red.....	White.
ROSE.....	White.....	Madder Lake.....	.....
SANDSTONE.....	White.....	Yellow Ochre.....	Black and Red.
SNUFF.....	Yellow.....	Vandyke Brown.....	.....
VIOLET.....	Red.....	Blue.....	White.

NOTE.—Any or all of the above colors can be purchased from paint dealers in any quantities desired. When mixing, great care must be taken in not getting too much of one kind of coloring in the mixture; use the weaker coloring first, then by adding the stronger coloring in small proportions stirring thoroughly until the desired shade is mixed.

MATERIAL BILL

(BASIS OF 100 SQUARE YARDS)

Amount of material required to paint or prime first coat:

White Lead—18 pounds to cover 100 square yards. Lithage—3 ounces.

Red Lead—1½ ounces. Linseed Oil—6 pints or 3 quarts.

SECOND COAT—Paint to cover 100 square yards:

White Lead—10 pounds.

Lithage—2 ounces.

Linseed Oil—2½ pints or 1¼ quarts.

Turpentine—1½ pints.

THIRD AND FOURTH COATS—Paint to cover 100 square yards:

White Lead—9 pounds.

Lithage—2 ounces.

Linseed Oil—2 pints or 1 quart or ¼ gallon.

Spirits of Turpentine—2 pints or 1 quart or ¼ gallon.

Bill of Materials for 100 square yards of three coat work, including the priming:

White Lead—37 pounds.

Red Lead—1½ ounces.

Linseed Oil—10½ pints or 5¼ quarts.

Turpentine—3½ pints.

For coloring to be added to the above paint for the last two coats, figure 10 to 15 pounds of coloring to 100 square yards.

Outside work, when exposed to the sun, more turpentine must be used to prevent the paint from blistering. Only boiled Linseed Oil should be used. For inside work, raw Linseed Oil can be used. For the flattening coat, the color being ground in oil, only Turps is added.

LABOR COST PRIMING OR FIRST COAT PAINTING

Wages 10 hours.....	\$2 .50	\$2.75	\$3.00	\$3.25	\$3.50	\$3.75
Cost per square yd. (cts.).....	.02 $\frac{3}{4}$	.03	.03 $\frac{1}{2}$	.03 $\frac{3}{4}$	3 8-9	.04 $\frac{1}{2}$
Wages 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	
Cost per square yd. (cts.).....	.04 $\frac{1}{2}$	.04 $\frac{2}{4}$	.05	.05 $\frac{1}{2}$	.05 $\frac{3}{4}$	
Wages 9 hours.....	\$2.50	\$2.75	\$3.00	\$3.25	\$3.50	\$3.75
Cost per square yd. (cts.).....	.03 $\frac{1}{2}$	.03 $\frac{3}{4}$	.03 $\frac{3}{4}$	.04 $\frac{1}{2}$	.04 $\frac{3}{4}$	.04 $\frac{3}{4}$
Wages 9 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	
Cost per square yd. (cts.).....	.05	.05 $\frac{1}{2}$	.05 $\frac{1}{2}$	.05 $\frac{3}{4}$	.06 $\frac{1}{4}$	
Wages 8 hours.....	\$2.50	\$2.75	\$3.00	\$3.25	\$3.50	\$3.75
Cost per square yd. (cts.).....	3 4-7	3 13-14	4 2-7	4 9-14	.05	5 5-14
Wages 8 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	
Cost per square yd. (cts.).....	5 5-7	6 1-14	6 3-7	6 11-14	7 1-7	

PAINTING

LABOR COST PAINTING FIRST OR SECOND COATS

Wages per 10 hours.....	\$2.50	\$2.75	\$3.00	\$3.25	\$3.50	\$3.75
Cost per square yd. (cts.).....	3 4-7	3 13-14	4 2-7	4 9-14	.05	5 5-14
Wages per 10 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	
Cost per square yd. (cts.).....	5 5-7	6 1-14	6 3-7	6 11-14	7 1-7	

Continued on Page 431.

Wages per 9 hours.....	\$2.50	\$2.75	\$3.00	\$3.25	\$3.50	\$3.75
Cost per square yd. (cts.).....	.04½	4 7-12	.05	5 5-12	5 5-6	.06¼
Wages per 9 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	
Cost per square yd. (cts.).....	.06¾	7 1-12	.07	7 11-12	.08½	
Wages per 8 hours.....	\$2.50	\$2.75	\$3.00	\$3.25	\$3.50	\$3.75
Cost per square yd. (cts.).....	.05	.05½	.06	.06½	.07	.07½
Wages per 8 hours.....	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	
Cost per square yd. (cts.).....	.08	.08½	.09	.09½	.10	

To get the cost for painting, see Material Bill for one, two or three coats, get prices from dealers, then figure from bill as per your prices which will give you the cost of materials for 100 square yards. See Tables for Labor as per wages you will have to pay and the hours per day.

FOR EXAMPLE: The first coat priming, the painter receives \$3.50 per 8 hours, which Table on Cost of

Labor shows the cost at 5 cents per square yard, 100 square yards equals.....	\$ 5.00
For second coat, table shows 7 cents per square yard, 100 square yards equals.....	7.00
For third coat, table shows 7 cents per square yard, 100 square yards equals.....	7.00

Total cost of labor, three coat work, 100 square yards.....\$19.00
 Total cost of labor, three coat work, 1 square yard.....19
 Total cost of material per square yard, divide by 100, then to cost of material and labor, add per cent
 from

40 The cost prices given for painting, including all material and labor, is on the basis of paying painters to 45 cents per hour and the price of material, \$12.00 per 100 pounds White Lead and 85 cents a gallon for Linseed Oil. This is cost only, add for profit to contractor.

Lin In St. Louis, August, 1913, White Lead could be bought at \$7.00 per 100 pounds or 7 cents per pound. Seed Oil at 65 cents per gallon. These prices will vary throughout the United States, owing to the cost of shipping material. As these products are made in St. Louis, as well as in other large cities, the cost of labor given in the foregoing tables should be followed, get prices on materials.

PAINTING AND GLAZING

Approximate cost for painting complete, including all paints, labor, scaffolding, etc.:

WOOD WORK

PLAIN COLORS, WITH LEAD.

For 1 coat.....	10 to 12 cents per superficial yard
For two coats.....	18 to 20 cents per superficial yard
For three coats.....	24 to 26 cents per superficial yard
For four coats.....	28 to 30 cents per superficial yard

If coat of Shellac, figure same as one coat of paint.

APPROXIMATE COST FOR PAINTING WOOD WORK DONE WITH LEAD

DARK GREEN, BLUE OR YELLOW

For one (1) coat.....	14 to 16 cents per superficial yard
For two (2) coats.....	22 to 24 cents per superficial yard
For three (3) coats.....	28 to 30 cents per superficial yard
For four (4) coats.....	34 to 36 cents per superficial yard

For two (2) coats.....35 to 37 cents per superficial yard
 For three (3) coats.....41 to 43 cents per superficial yard
 For one (1) coat common color thereon.....27 to 29 cents per superficial yard
 For two (2) coats common color thereon.....35 to 37 cents per superficial yard

APPROXIMATE COST OF PAINTING AND SANDED ON BRICK

For three (3) coats.....55 to 58 cents per superficial yard
 For four (4) coats.....74 to 77 cents per superficial yard
 If laid off in block, charge according to size of blocks, add 10 to 20 cents.

APPROXIMATE COST OF IMITATION OF WOOD AND MARBLE

For graining and one coat varnish.....65 to 75 cents per superficial yard
 For graining and two coats varnish.....80 to 90 cents per superficial yard
 For marbling.....\$1.50 to \$2.00 per superficial yard
 For varnished and polished plain work.....1.50 to 2.00 per superficial yard

PAINTING AND GLAZING

APPROXIMATE COST FOR PAINTING ON OLD WOOD WORK (INSIDE)

For one (1) coat.....12 to 14 cents per superficial yard
 For two (2) coats.....19 to 22 cents per superficial yard

APPROXIMATE COST FOR PAINTING ON OLD WOOD WORK (OUTSIDE)

For one (1) coat.....14 to 16 cents per superficial yard
 For two (2) coats.....21 to 23 cents per superficial yard

APPROXIMATE COST FOR PAINTING BRICK WORK IN COMMON COLORS

For one (1) coat.....	16 to 18 cents per superficial yard
For two (2) coats.....	24 to 27 cents per superficial yard
For three (3) coats.....	31 to 34 cents per superficial yard

APPROXIMATE COST FOR PAINTING BRICK WORK, GREEN, BLUE OR YELLOW

For one (1) coat.....	19 to 21 cents per superficial yard
For two (2) coats.....	29 to 31 cents per superficial yard
For three (3) coats.....	38 to 40 cents per superficial yard
Cost for varnishing interior wood work in two (2) coats of Copal varnish and sizing wood, etc.....	33 to 35 cents per superficial yard
43 If no sizing, charge for two (2) coats varnish.....	23 to 25 cents per superficial yard

PAINT USED FOR PRESERVING IRON FROM RUST, ETC.

Use Pulverized Oxides of Iron mixed with Linseed Oil and a Dryer.

GLASS AND GLAZING

Window glass is sold by the box, whatever may be the size of the panes. A box contains as nearly 50 square feet of glass as the dimensions of the panes will admit of.

Panes of any size may be made to order by the manufacturer. The sizes given in the following table are generally to be had ready made. Single strength which is about $\frac{1}{8}$ of an inch in thickness and double strength is about $\frac{1}{4}$ of an inch thick. In ordering glass, you should make known whether single or double strength, otherwise single strength will be furnished.

NUMBER OF LIGHTS PER BOX OF 50 FEET

Inches	No.	Inches	No.	Inches	No.	Inches	No.	Inches	No.	Inches	No.	Inches	No.	Inches	No.	Inches	No.
6x8	150	10x22	33	12x20	30	14x34	15	18x20	20	20x50	7	26x32	9	30x46	5		
7x9	115	10x24	30	12x22	27	14x36	14	18x22	18	20x60	6	26x34	8	30x48	5		
8x10	90	10x26	28	12x24	25	14x40	13	18x24	17	22x24	14	26x36	8	30x50	5		
8x11	82	10x28	26	12x26	23	14x44	11	18x26	15	22x26	13	26x40	7	30x54	4		
8x12	75	10x30	24	12x28	21	15x18	27	18x28	14	22x28	12	26x42	7	30x56	4		
8x13	70	10x32	22	12x30	20	15x20	24	18x30	13	22x30	11	26x44	6	30x60	4		
8x14	64	10x34	21	12x32	18	15x22	22	18x32	13	22x32	10	26x48	6	32x42	5		
8x15	60	11x13	50	12x34	17	15x24	20	18x34	12	22x34	10	26x50	6	32x44	5		
8x16	55	11x14	47	13x14	40	15x26	18	18x36	11	22x36	9	26x54	5	32x46	5		
9x11	72	11x15	44	13x16	35	15x28	17	18x38	11	22x38	9	26x58	5	32x48	5		
9x12	67	11x16	41	13x18	31	15x30	16	18x40	10	22x40	8	28x30	9	32x50	4		
9x13	62	11x17	39	13x20	28	15x32	15	18x44	9	22x44	8	28x32	8	32x54	4		
9x14	57	11x18	36	13x22	25	16x18	25	20x22	16	22x46	7	28x34	8	32x56	4		
9x15	53	11x20	33	13x24	23	16x20	23	20x24	15	22x50	7	28x36	7	32x60	4		
9x16	50	11x22	30	13x26	21	16x22	20	20x26	14	24x28	11	28x36	7	34x40	5		
9x17	47	11x24	27	13x28	19	16x24	19	20x28	13	24x30	10	28x40	6	34x44	5		

Continued on Page 436.

Inches	No.	Inches	No.	Inches	No.	Inches	No.	Inches	No.	Inches	No.	Inches	No.	Inches	No.	Inches	No.
9x18	44	11x26	25	13x30	18	16x26	17	20x30	12	24x32	9	28x44	6	34x46	5		
9x20	40	11x28	23	14x16	32	16x28	16	20x32	11	24x36	8	28x46	6	34x50	4		
10x12	60	11x30	21	14x18	29	16x30	15	20x34	11	24x40	8	28x50	5	34x52	4		
10x13	55	11x32	20	14x20	26	16x32	14	20x36	10	24x44	7	28x52	5	34x56	4		
10x14	52	11x34	19	14x22	23	16x34	13	20x38	9	24x46	7	28x56	4	36x44	5		
10x15	48	12x14	43	14x24	22	16x36	12	20x40	9	24x48	6	30x36	7	36x50	4		
10x16	45	12x15	40	14x26	20	16x38	12	20x44	8	24x50	6	30x40	6	36x56	4		
10x17	42	12x16	38	14x28	18	16x40	11	20x46	8	24x54	5	30x42	6	36x60	3		
10x18	40	12x17	35	14x30	17	16x44	10	20x48	8	24x56	5	30x44	5	36x64	3		
10x20	36	12x18	33	14x32	16												

APPROXIMATE COST FOR GLAZING OR SETTING GLASS, LABOR AND PUTTY

SIZE OF GLASS	COST FOR SETTING	SIZE OF GLASS	COST FOR SETTING
8x10 inches	3½ cents per Light	12 or 13 by 20 inches	8½ cents per Light
10x12 inches	4½ cents per Light	12 or 14 by 22 inches	9½ cents per Light
10 by 14 or 15 inches	5½ cents per Light	14 or 16 by 24 inches	10½ cents per Light
11 by 15 or 16 inches	6½ cents per Light	16 by 26 or 28 inches	11½ cents per Light
12 by 16 or 18 inches	7½ cents per Light	18 by 32 or 34 inches	12½ cents per Light

APPROXIMATE COST FOR RE-GLAZING OR RE-SETTING GLASS

Including taking out old glass, labor and putty:

SIZE OF GLASS	Cost for Re-Setting	SIZE OF GLASS	Cost for Re-Setting
8x10 inches	4½ cents per Light	12 or 13 by 20 inches	10½ cents per Light
10x12 inches	5½ cents per Light	12 or 14 by 22 inches	11½ cents per Light
10 by 14 or 15 inches	7½ cents per Light	14 or 16 by 24 inches	12½ cents per Light
11 by 15 or 16 inches	8½ cents per Light	16 by 26 or 28 inches	13½ cents per Light
12 by 16 or 18 inches	9½ cents per Light	18 by 32 or 34 inches	14½ cents per Light

NOTE.—When any of the above glass is bedded in putty, charge one and one-fourth the price. Putty and points are included in the foregoing prices; no glass. For all sizes larger than above shown, charge 3½ to 4 cents per square foot. For all glazing show cases, standing sash, stained glass, etc. (plate glass), handled by one man, charge 5 to 6 cents per square foot.

Setting plate glass in large plates as in store fronts which require six or eight men to do the work, charge special prices for which there should be an understanding who stands the risk. If the setter is held responsible for preakage, he should charge more for risk. Setters should be employed who have the experience in setting for kind of glass. Approximate price for this kind of setting runs 20 to 25 cents per square foot; risk and size of job considered.

ROOFING

Roofing is estimated by the square of 100 square feet or by the square foot.

SLATE ROOFS

In measuring slating, the width of the eaves are to be allowed. Measured at the widest part, hips, valleys, eaves, combings and cuttings against walls are measured solid, allowing one foot width, by whole length of such work.

Openings less than 3 square feet are not deducted. All lead, tin or other metal work such as flashings, valleys, etc., are extra. Chimneys and flues are not deducted and cutting around them, measured by the lineal foot and 1 foot wide.

TIN ROOFS

Tin roofing is estimated by the square of 100 superficial foot; hips, valleys and flashings, by the foot lineal and are rated by the girth.

ROOF MEASUREMENT—PLAIN GABLES

To get the number of feet superficial on a roof, multiply the entire length of rafter by the length of building, including the projections of cornice.

HIP ROOFS

Figure the entire outside measurement of the building, including the projections of the cornice, then multiply this by the length of the principal rafter and take one-half the result is the area of the roof.

PURCHASING SLATE

Slate are sold by the square of 100 square feet (10 feet by 10 feet equals 100 square feet), allowing each *course* to have a 3-inch lap over the head of the courses below. The principal output of slate comes from

Pennsylvania and Vermont and cost about \$3.50 to \$6.50 per square, F. O. B. quarries, which depends on grade of slate, etc.

Slate varies from 175 to 180 pounds per cubic foot.

WELSH SLATE

Weights about 180 pounds per cubic foot.

One superficial foot of Welsh Slate	$\frac{1}{4}$ inch thick, weighs about.....	$3\frac{3}{4}$ pounds
One superficial foot of Welsh Slate	$\frac{1}{2}$ inch thick, weighs about.....	$7\frac{1}{2}$ pounds
One superficial foot of Welsh Slate	$\frac{3}{4}$ inch thick, weighs about.....	$11\frac{1}{4}$ pounds
One superficial foot of Welsh Slate	1 inch thick, weighs about.....	15 pounds
One superficial foot of Welsh Slate	$1\frac{1}{8}$ inches thick, weighs about.....	$16\frac{1}{8}$ pounds
One superficial foot of Welsh Slate	$1\frac{1}{4}$ inches thick, weighs about.....	$18\frac{3}{4}$ pounds
One superficial foot of Welsh Slate	$1\frac{1}{2}$ inches thick, weighs about.....	$20\frac{1}{2}$ pounds
One superficial foot of Welsh Slate	$1\frac{3}{4}$ inches thick, weighs about.....	$22\frac{1}{2}$ pounds
One superficial foot of Welsh Slate	$1\frac{7}{8}$ inches thick, weighs about.....	$24\frac{3}{8}$ pounds
One superficial foot of Welsh Slate	$1\frac{7}{8}$ inches thick, weighs about.....	$26\frac{1}{4}$ pounds
One superficial foot of Welsh Slate	$1\frac{7}{8}$ inches thick, weighs about.....	$28\frac{1}{8}$ pounds
One superficial foot of Welsh Slate	2 inches thick, weighs about.....	30 pounds
One superficial foot of Welsh Slate	3 inches thick, weighs about.....	45 pounds
One superficial foot of Welsh Slate	4 inches thick, weighs about.....	60 pounds
One superficial foot of Welsh Slate	5 inches thick, weighs about.....	75 pounds
One superficial foot of Welsh Slate	6 inches thick, weighs about.....	90 pounds
One superficial foot of Welsh Slate	12 inches thick, weighs about.....	180 pounds

ROOFING

AMERICAN SLATE

American Slate varies in weight per cubic foot, but the average is about 174 pounds per cubic foot.		
One superficial foot of American Slate	$\frac{1}{8}$ inch thick, weighs about.....	1 $\frac{3}{4}$ pounds
One superficial foot of American Slate	$\frac{1}{4}$ inch thick, weighs about.....	3 $\frac{3}{8}$ pounds
One superficial foot of American Slate	$\frac{3}{8}$ inch thick, weighs about.....	5 $\frac{1}{4}$ pounds
One superficial foot of American Slate	$\frac{1}{2}$ inch thick, weighs about.....	7 $\frac{1}{4}$ pounds
One superficial foot of American Slate	$\frac{5}{8}$ inch thick, weighs about.....	9 $\frac{1}{2}$ pounds
One superficial foot of American Slate	$\frac{3}{4}$ inch thick, weighs about.....	10 $\frac{1}{8}$ pounds
One superficial foot of American Slate	$\frac{7}{8}$ inch thick, weighs about.....	12 $\frac{1}{8}$ pounds
One superficial foot of American Slate	1 inch thick, weighs about.....	14 $\frac{1}{2}$ pounds
One superficial foot of American Slate	1 $\frac{1}{8}$ inches thick, weighs about.....	16 $\frac{3}{4}$ pounds
One superficial foot of American Slate	1 $\frac{1}{4}$ inches thick, weighs about.....	18 $\frac{1}{8}$ pounds
One superficial foot of American Slate	1 $\frac{3}{8}$ inches thick, weighs about.....	19 $\frac{5}{8}$ pounds
One superficial foot of American Slate	1 $\frac{1}{2}$ inches thick, weighs about.....	21 $\frac{1}{4}$ pounds
One superficial foot of American Slate	1 $\frac{5}{8}$ inches thick, weighs about.....	23 $\frac{3}{8}$ pounds
One superficial foot of American Slate	1 $\frac{3}{4}$ inches thick, weighs about.....	25 $\frac{3}{8}$ pounds
One superficial foot of American Slate	1 $\frac{7}{8}$ inches thick, weighs about.....	27 $\frac{3}{8}$ pounds
One superficial foot of American Slate	2 inches thick, weighs about.....	29 pounds
One superficial foot of American Slate	2 $\frac{1}{4}$ inches thick, weighs about.....	32 $\frac{5}{8}$ pounds
One superficial foot of American Slate	2 $\frac{1}{2}$ inches thick, weighs about.....	36 $\frac{1}{4}$ pounds
One superficial foot of American Slate	2 $\frac{3}{4}$ inches thick, weighs about.....	39 $\frac{7}{8}$ pounds

Continued on Page 441

One superficial foot of American Slate	3 1/2 inches thick, weighs about.....	50 3/4 pounds
One superficial foot of American Slate	3 3/4 inches thick, weighs about.....	54 3/4 pounds
One superficial foot of American Slate	4 inches thick, weighs about.....	58 pounds
One superficial foot of American Slate	5 inches thick, weighs about.....	52 1/2 pounds
One superficial foot of American Slate	6 inches thick, weighs about.....	87 pounds
One superficial foot of American Slate	7 inches thick, weighs about.....	101 1/2 pounds
One superficial foot of American Slate	8 inches thick, weighs about.....	116 pounds
One superficial foot of American Slate	9 inches thick, weighs about.....	130 1/2 pounds
One superficial foot of American Slate	10 inches thick, weighs about.....	145 pounds
One superficial foot of American Slate	11 inches thick, weighs about.....	159 1/2 pounds
One superficial foot of American Slate	12 inches thick, weighs about.....	174 pounds

The foregoing sizes and weights are given for special slate slabs as used for Black Boards, Wainscoting, Bases, Stair Treads, Toilet Partitions, etc.

AMERICAN ROOFING SLATE varies in thickness from 1/8 to 1/4 inch. Slate are graded according to their straightness, smoothness of surface, even in thickness and uniform in color. They are graded as first and second qualities.

ROOFING

Imported slate sizes and various names for same and the number of slate required to cover one square, 3-inch gauge.

12x 8 inches, requires.....	400 pieces to lay one square, 3-inch gauge
13x 6 inches, requires.....	500 pieces to lay one square, 3-inch gauge

Continued on Page 442.

Counters.....	16x 8 inches, requires.....	277 pieces to lay one square, 3-inch gauge
Marchionesses.....	18x10 inches, requires.....	192 pieces to lay one square, 3-inch gauge
Duchesses.....	20x10 inches, requires.....	170 pieces to lay one square, 3-inch gauge
Princesses.....	22x11 inches, requires.....	138 pieces to lay one square, 3-inch gauge
Empresses.....	24x12 inches, requires.....	114 pieces to lay one square, 3-inch gauge
	24x14 inches, requires.....	100 pieces to lay one square, 3-inch gauge
	26x16 inches, requires.....	80 pieces to lay one square, 3-inch gauge

American Slate, sizes and the number of slate required to cover one square:

12x 6 Inches.....	533 pieces per square	18x11 Inches.....	175 pieces per square
12x 7 Inches.....	458 pieces per square	20x10 Inches.....	170 pieces per square
12x 8 Inches.....	400 pieces per square	20x11 Inches.....	155 pieces per square
14x 7 Inches.....	375 pieces per square	20x12 Inches.....	140 pieces per square
14x 8 Inches.....	328 pieces per square	22x11 Inches.....	138 pieces per square
14x 9 Inches.....	392 pieces per square	22x12 Inches.....	128 pieces per square
16x 8 Inches.....	277 pieces per square	22x13 Inches.....	118 pieces per square
16x 9 Inches.....	247 pieces per square	24x12 Inches.....	114 pieces per square
16x10 Inches.....	222 pieces per square	24x13 Inches.....	106 pieces per square
18x 9 Inches.....	214 pieces per square	24x14 Inches.....	100 pieces per square
18x10 Inches.....	192 pieces per square		

Nails for slating are used in various lengths for ordinary work; 4D or 5D are used.

Sizes 3D are 1½ inches in length; there are about 290 nails per pound.

Sizes 4D are 1¾ inches in length; there are about 245 nails per pound.

Sizes 5D are 1¾ inches in length; there are about 186 nails per pound.

NAILS

Sizes 6D are 2 inches in length; there are about 145 nails per pound.

When figuring the amount of nails required for the number of squares of slate to be laid, take the foregoing table giving the size of slate used, then the number of pieces of slate per square, allowing 2 nails plus 5 per cent for waste for each slate, then by table of nails.

EXAMPLE.—Say we have Countesses, 20x10 inches to lay and we use 5D nails. Tables show 170 slate per square times 2 nails equals 340 nails; we have 20 squares in all to lay, 20 times 340 equals 6,800 nails plus 5 per cent equals 7,140 nails. There are 186 5D nails per pound, 186 divided into 7,140 equals 38 12-31 pounds; we may say 38 pounds of nails for the 20 squares.

ROOFING SLATE

THE COST OF SLATE DEPENDS ON QUALITY, SIZES, GRADES AND QUARRIES, as there are various quarries and a vast difference in quality and prices.

For a beautiful slate which is very durable, uniform in thickness and smooth surface, the Brownville main quarries are able to give satisfaction. Although their prices are some higher, which runs \$5.00 to \$7.00 per square F. O. B. quarries. When estimating on slate work, get prices from dealers, as the prices of slate changes as in all other material.

BANGOR BLACK ROOFING SLATE

cheaper slate, but gives good satisfaction for durability and is used extensively throughout the United States on all classes of buildings. The cost of Bangor slate runs \$3.50 to \$4.50 per square, F. O. B. quarries.

PEACH BOTTOM SLATE

of the best slate in the market. It is very durable, holds its color and runs uniform in thickness. The cost of this slate runs \$5.00 to \$6.00 per square, F. O. B. quarries.

Which are used mostly on residences and churches, cost about as follows, F. O. B. quarries: The Red, \$8.00 to \$11.00 per square; Green, \$3.50 to \$4.50; Purple, \$4.00 to \$5.00. As to durability, the writer does not believe the Colored Slate is as lasting as the Dark or Grey Slate. In writing this book, it is not my intention to condemn or recommend any material. It is to the architect to specify the material; he thinks best for the purpose. It is generally to the contractor to furnish as specified.

SHEATHING ROOF FOR SLATE

FOR BEST RESULTS, THE ROOF SHOULD BE SHEATHED TIGHT WITH TONGUED AND GROOVED LUMBER and well nailed at each rafter and then covered with roofing paper or felt. The paper should be well laid on the sheathing and as soon as possible after the sheathing has been laid, even though the slater is not ready to lay the slate. Boards laid to the weather getting well soaked with water by rains and snows and then drying out rapidly by the hot sun causes the lumber to swell and then shrink and twist or buckle when drying. By covering the sheathing with paper keeps it dry and in place.

The paper used is called slating felt, which is a tarred paper which is made up in rolls 28 and 32 inches in width and weighs about 50 pounds. One roll will cover about 3 squares or about 16 pounds of paper to the square.

One slater will lay on ordinary roofs, 2 squares per hour or 16 squares per 8 hours.

ORDERING SLATE

GIVE THE DEALERS A FULL EXPLANATION OF WHAT IS WANTED and what is required of the dealers in shipping, if the slate are to be punched or not, giving the sizes of slate wanted and the full amount of squares. In laying slate, there are more or less breakage. The handling in hauling; also the tenders who supply the slate to the slater, will break some no matter how careful they may be. These facts to be considered, it is

Continued on page 445

always best in placing your order, to allow two or three per cent extra to make up the shortage caused by breakage.

ROOFING

LAYING SLATE

About one tender will supply two slaters on a plain roof and one tender on the ground to load slate, which would mean one tender to each slater. On large work where there are five to eight slaters employed, then the tenders may be lessened one or two, especially on roof with many hips and valleys, as the slater will not require as many slate, because of time taken in cutting, etc. A slater will lay, when on plain roofs and slate well provided, 800 to 1,500 slate per day of 8 hours or he will lay about 3 squares on plain straight work and 2 squares on roofs cut up with many hips and valleys, etc. On towers or other difficult work, $\frac{3}{4}$ of a square in 8 hours' work. The number of squares per day depends on size of slate.

LABOR LAYING VARIOUS SIZES OF SLATE IN 8 HOURS

One slater and tender will lay on plain straight work, 1,600 doubles or 3 1-5 squares, 13x6 inch slate.

One slater and tender will lay on plain straight work, 1,477 Ladies or $5\frac{1}{8}$ squares, 16x8 inch.

One slater and tender will lay on plain straight work, 1,235 Countesses or 7 3-11 squares, 20x10 inch slate.

One slater and tender will lay on plain straight work, 800 Duchesses or 8 squares, 24x12 inch slate.

The above work does not include laying of paper or punching slate.

One slater will lay 16 to 18 squares of Slater's Felt in 8 hours.

HOLING SLATE

One man can hole about 300 slate per hour or 2,400 in 8 hours.

LABOR COST LAYING SLATE

Labor cost combined for slater and helper; slater's wages 40 to 65 cents per hour and tender's wages 4 cents per hour. Size of slate 13x6 inches, called Doubles, 8 hours per day:

ARTICLE No. 1.									
Wages combined.....	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25	
Cost per square.....	1.50	1.58	1.66	1.75	1.83	1.91	2.00	2.08	
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25	
Cost per square.....	2.16	2.25	2.33	2.41	2.50	2.58	2.66	2.75	
ARTICLE No. 2. LAYING SLATE 16x8 INCHES									
Wages combined.....	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25	
Cost per square.....	.90	.95	1.00	1.05	1.10	1.15	1.20	1.25	
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25	
Cost per square.....	1.30	1.35	1.40	1.45	1.50	1.55	1.60	1.65	
ARTICLE No. 3. LAYING SLATE 20x10 INCHES									
Wages combined.....	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25	
Cost per square.....	.64	.67	.71	.75	.78	.82	.85	.89	
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25	
Cost per square.....	.92	.96	1.00	1.03	1.07	1.10	1.14	1.17	
ARTICLE No. 4. LAYING SLATE 24x12 INCHES									
Wages combined.....	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25	
Cost per square.....	.56	.59	.62	.65	.68	.71	.75	.78	
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25	
Cost per square.....	.81	.84	.87	.90	.93	.96	1.00	1.03	

ARTICLE No. 5.

LAYING SLATER'S FELT—ONE LAYER

Wages combined.....	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost per square.....	.21	.23	.31	.32	.34	.36	.37	.39
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25
Cost per square..	.40	.42	.43	.45	.46	.48	.50	.51

ROOFING

ARTICLE No. 6.

HOLING SLATE BY MACHINE—HELPER OR SLATER—SIZE OF SLATE, 13x6 INCHES

		LABOR COST PER SQUARE							
447	Wages per 8 hours.....	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00	\$3.25
	Cost per square.....	.30	.35	.40	.45	.50	.55	.60	.65
	Wages per 8 hours.....	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25
	Cost per square.....	.70	.75	.80	.85	.90	.95	1.00	1.05

ARTICLE No. 7.

HOLING SLATE BY MACHINE—LABOR COST—SIZE OF SLATE, 16x8 INCHES

Wages per 8 hours.....	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00	\$3.25
Cost per square.....	.18	.21	.25	.28	.31	.34	.37	.40
Wages per 8 hours.....	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25
Cost per square.....	.43	.46	.50	.53	.56	.59	.62	.65

ARTICLE No. 8.

HOLING SLATE BY MACHINE—LABOR COST—SIZE OF SLATE, 20x10 INCHES

Wages per 8 hours.....	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00	\$3.25
Cost per square.....	.10	.12	.14	.16	.17	.19	.21	.23
Wages per 8 hours.....	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25
Cost per square.....	.25	.26	.28	.30	.32	.33	.35	.37

ARTICLE No. 9.

HOLING SLATE BY MACHINE—LABOR COST—SIZE OF SLATE, 24x12 INCHES

Wages per 8 hours.....	\$1.50	\$1.75	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00	\$3.25
Cost per square.....	.06	.07	.08	.09	.10	.11	.12	.13
Wages per 8 hours.....	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	\$5.25
Cost per square.....	.14	.15	.16	.17	.18	.19	.20	.21

ARTICLE No. 10.

LABOR COST LAYING SLATER'S FELT OR PAPER BETWEEN THE SHEATHING AND SLATE—

SLATER AND HELPER—8 HOURS PER DAY

Wages combined.....	\$4.50	\$4.75	\$5.00	\$5.25	\$5.50	\$5.75	\$6.00	\$6.25
Cost per square.....	.25	.26	.27	.29	.30	.32	.33	.34
Wages combined.....	\$6.50	\$6.75	\$7.00	\$7.25	\$7.50	\$7.75	\$8.00	\$8.25
Cost per square.....	.36	.37	.38	.40	.41	.43	.44	.45

MATERIAL COST—PRICE OF SLATE F. O. B. QUARRIES OR DELIVERED AT BUILDING

Cost of slate per square.....	\$ 3.00	\$ 3.10	\$ 3.25	\$ 3.35	\$ 3.50	\$ 3.60	\$ 3.75
Cost of slate per square delivered.....	7.75	8.00	8.25	8.50	8.75	9.00	9.25
Cost of slate per square.....	\$ 3.85	\$ 3.90	\$ 4.00	\$ 4.10	\$ 4.25	\$ 4.35	\$ 4.50
Cost of slate per square delivered.....	9.50	9.75	10.00	10.25	10.50	10.75	11.00
Cost of slate per square.....	\$ 4.60	\$ 4.75	\$ 4.85	\$ 5.00	\$ 5.25	\$ 5.50	\$ 5.75
Cost of slate per square delivered.....	11.25	11.50	11.75	12.00	12.25	12.50	12.75
Cost of slate per square.....	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50
Cost of slate per square delivered.....	13.00	13.25	13.50	13.75	14.00	14.50	15.00

To this cost add 1 to 2 per cent for wastage, etc.

ARTICLE No. 12.

PAPER OR SLATER'S FELT—1 PLY

Cost of paper per pound (cts.).....	$\frac{3}{4}$	01	01 $\frac{1}{4}$	01 $\frac{1}{2}$	01 $\frac{3}{4}$	02	02 $\frac{1}{4}$
Cost of paper per square (cts.).....	11 $\frac{1}{4}$	15	18 $\frac{3}{4}$	22 $\frac{1}{2}$	26 $\frac{1}{4}$	30	33 $\frac{3}{4}$
Cost of paper per pound (cts.).....	02 $\frac{1}{2}$	03	03 $\frac{1}{4}$	03 $\frac{1}{2}$	03 $\frac{3}{4}$	04	
Cost of paper per square (cts.)....	37 $\frac{1}{2}$	45	48 $\frac{3}{4}$	52 $\frac{1}{2}$	56 $\frac{1}{4}$	60	

FREIGHT ON SLATE, ETC., TO BE ADDED TO THE FOREGOING PRICES. When estimating on Slate Work, prices from dealers. The cost of freight depends on shipping distance. If the work is to be done in some small town, perhaps the slaters would have to be shipped there which would require railroad fares, etc., to be

Cost Example.—We have a slate roof to lay which calls for 20x10 Bangor No. 1 Black Slate. The slate costs \$4.50 F. O. B. quarries and say \$2.00 per square, freight 25 cents per square drayage. The felt cost 1½ cents per pound, slater's wages 60 cents and helper's 25 cents per hour and work 8 hours per day:

One square of slate, 20x10, F. O. B. quarry.....	\$4.50
Fifteen pounds of Slater's Felt 1 Ply at 1½ cents per pound (see Article No. 12).....	.22½
One square of slate freight.....	2.00
One square of slate drayage.....	.25
One square of slate, hoing labor (see Article No. 8) wages 25 cents or \$2.00 per 8 hours....	.14
One square of Slater's Felt labor (see Article No. 10), wages combined slater 60 cents, helper 25 cents equals \$6.80.....	.37
One square of slate, 20x10, labor laying at combined wages \$6.75 (see Article No. 3).....	.96
One square of Slater's Nails, 2½ P. at 4 cents.....	.10
Wastage on slate, \$4.50 plus \$2.00 plus 25 equals \$6.75, 2 per cent.....	13½
Add Profit—Cost per square.....	\$8.68

ROOFING

GRAVEL ROOFS

Gravel roofs are estimated by the square of 100 square feet. Multiply the width of roof by the length which gives the total of square feet, then divide same by 100 square feet equals the number of squares. Buildings having fire walls, the felt and composition of tar and pitch are run up from the roof to sides of walls from 6 to 12 inches; this is called flashing, which prevents rain, etc., from leaking through the joints between the roof, fire walls, chimneys, etc. When a roof requires flashing under 6 inches, figure 1 foot; flashing up to 12

of metal, then charge extra for same.

FOR EXAMPLE.—Say a roof measures 30 feet from fire walls in width and the flashing is 6 inches high; we figure it as 1 foot and we have two walls the same height which would be 2 feet to be added to width of roof, 30 plus 2 equals 32 feet. The same applies to length of roof if flashed.

GRAVEL SHOULD BE WELL SCREENED AND CLEAN FROM ALL DIRT, ETC. The dealers from whom you purchase the gravel should be advised just what is required as to quantity and quality. If the gravel has to be purchased through correspondence and shipped and only getting prices on gravel not stating for what purpose it is to be used, you are liable to receive gravel full of sand intended for concrete, etc. Therefore, in order to save trouble, delays, extra cost, etc., make known just what is wanted before placing your order. In all cities and large towns, there are contractors who make a speciality of this class of work, who carry a large amount of material on hand, employ regular roofers and generally able to do the work on short notice. The contractor should give the roofer time to get his material on the premises before the roof is ready to be laid. If there are no contractors or regular roofers located in vicinity in which the roofing is to be done and all material and labor has to be shipped, then extra expenses will have to be added to cost of roofing. Gravel or Composition roofs as it is termed by some architects and builders is a tar felt of 4 or 5 ply which is laid on the sheathing, each layer of felt is lapped and mopped with what the roofer calls hot stuff, which is a composition of one-third tar and two-thirds pitch boiled in large tank or pot and applied when hot. When the number of plys have been laid and coat of tar mopped on surface, while hot, the screened gravel is spread over the whole surface.

On cheap class of work, the roofers often lay the felt and mop only the joints instead of all over; the is on the composition and labor. To mop the whole surface of each layer of felt requires about 50 per cent

ARTICLE No. 3.

GRAVEL COST PER CUBIC YARD DELIVERED

Cost per cubic yard.....	\$1.00	\$1.05	\$1.10	\$1.15	\$1.20	\$1.25	\$1.50	\$1.75
Cost per square.....	.16 $\frac{3}{4}$	.17 $\frac{1}{2}$	.18 $\frac{1}{4}$	.19 $\frac{1}{4}$	.20	.20 $\frac{3}{4}$	.25	.29 $\frac{1}{4}$
Cost per cubic yd.....	\$2.00	\$2.25	\$2.50	\$2.75	\$3.00	\$3.25	\$3.50	
Cost per square.....	.33 $\frac{1}{4}$	.37 $\frac{1}{2}$	.41 $\frac{3}{4}$	45	5-6	.54 $\frac{1}{4}$	.58 $\frac{1}{4}$	

ARTICLE No. 4.

TAR COST PER POUND DELIVERED (42 POUNDS PER SQUARE, 4-PLY

Cost of tar per pound (cts.).....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{1}{2}$	.01	.01 $\frac{1}{2}$
Cost of tar per square (cts.).....	10 $\frac{1}{2}$	15 $\frac{3}{4}$	21	26 $\frac{1}{4}$	31 $\frac{1}{2}$	36 $\frac{3}{4}$	42	47 $\frac{1}{4}$
Cost of tar per pound (cts.).....	1 $\frac{1}{4}$	1 $\frac{3}{8}$	1 $\frac{1}{2}$	1 $\frac{5}{8}$	1 $\frac{3}{4}$	1 $\frac{7}{8}$	2	
Cost of tar per square (cts.).....	52 $\frac{1}{2}$	57 $\frac{3}{4}$	63	68 $\frac{1}{4}$	73 $\frac{1}{2}$	78 $\frac{3}{4}$	84	

ARTICLE No. 5.

PITCH COST PER POUND DELIVERED ABOUT 78 POUNDS PER SQUARE, 4-PLY

Tar one-third and pitch two-thirds to be mixed and boiled.

Cost of pitch per pound (cts.).....	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{1}{2}$	1	1 $\frac{1}{2}$
Cost of pitch per square (cts.).....	19 $\frac{1}{2}$	29 $\frac{1}{4}$	39	48 $\frac{3}{4}$	58 $\frac{1}{2}$	68 $\frac{1}{4}$	78	87 $\frac{3}{4}$
Cost of pitch per pound (cts.).....	1 $\frac{1}{4}$	1 $\frac{3}{8}$	1 $\frac{1}{2}$	1 $\frac{5}{8}$	1 $\frac{3}{4}$	1 $\frac{7}{8}$	2	
Cost of pitch per square (cts.).....	97 $\frac{1}{2}$	107 $\frac{1}{4}$	117	126 $\frac{3}{4}$	136 $\frac{1}{2}$	146 $\frac{1}{4}$	156	

roof 50 feet in width and 132 feet in length; to be a 4-ply gravel roof, each layer

We pay roofers 50 cents per hour, gravel \$2.25 per cubic yard, felt, 4-ply, 1½ cents per pound, tar, 1¼ cents per pound, pitch, 1¼ cents per pound:
 The number of squares is 50x132 equals 6,600 or 66 squares.

BILL OF MATERIAL AND LABOR

One square—labor at 50 cents. For cost, see Article No. 1 at 50 cents shows cost per square.....\$1.00
 One square—Felt, 4-ply, at 1½ cents. For cost, see Article No. 2 at 1½ cents shows cost per square.... 1.20
 One square—Gravel at \$2.25 per cubic yard. For cost, see Article No. 3 at \$2.25 shows cost per square. .37½
 One square—Tar at 1¼ cents per pound. For cost, see Article No. 4 at 1¼ cents shows cost per square .52½
 One square—Pitch at 1¼ cents per pound. For cost, see Article No. 5 at 1¼ cents shows cost per sq... .97½

Total cost per square.....	\$4.07½
Sixty-six squares at \$4.07½ equals.....	\$268.95
Contractor's profit say 10 per cent.....	26.89
	<hr/>
	\$295.84

or \$4.48 8-33 per square.

NOTE.—When estimating roof work, get prices of material and labor, then figure the cost as per Cost Tables as shown.

Figure about ⅓ cubic yard of gravel for every square of roofing or 6 squares to 1 cubic yard gravel.
 Figure about 20 pounds of felt to each ply of roofing.

Figure about 120 pounds of tar, etc., to each square of 4-ply when all mopped.

Figure about 30 pounds to each ply when all mopped.

Continued on Page 455.

Figure about 4 squares per 8 hours for each man employed on roof, including men hoisting.
Roofers's Composition can be purchased in barrels of about 50 gallons, 400 to 420 pounds net.

ROOFING

TIN ROOFING IS ESTIMATED BY THE SQUARE OF 100 superficial feet.

Hips, Valleys, Flashings, by the lineal foot.

Gutters and Down Spouts or what is called Conductord and Leaders are estimated by the lineal foot and a fixed price according to diameter or girth.

A box of 14x20 inch Roofing Tin weighs from 115 to 145 pounds and contains 112 sheets.

A box of Pontymiester M. F. or other good brands of I. C. Charcoal Tin weigh about 115 pounds per box or full 1 pound per sheet.

The X Tin weighs about 140 pounds per box or about $1\frac{1}{4}$ pounds per sheet.

A box of 20x28 inches I. C. weighs about 225 pounds. The X Tin weighs about 285 pounds.

Table showing the number of Sheets of 14x20 inches required to cover a given number of superficial (standing seam), Tin Sheets 14x20 inches, allowing 1 inch and $1\frac{1}{4}$ inches for two side ribs, $\frac{1}{2}$ inch for

bottom and top laps:

No. SHEETS	WILL COVER SUP. SUP. FEET IN.	No. SHEETS	WILL COVER SUP. SUP. FEET IN.	No. SHEETS	WILL COVER SUP. SUP. FEET IN.	No. SHEETS	WILL COVER SUP. SUP. FEET IN.
1	1 7½	30	48 9	59	95 10½	88	143 7½
2	3 3	31	50 4½	60	97 6	89	144 3
3	4 10½	32	52 0	61	99 1½	90	146 3
4	6 6	33	53 7½	62	100 9	91	147 10½
5	8 1½	34	55 3	63	102 4½	92	149 6
6	9 9	35	56 10½	64	104 0	93	151 1½
7	11 4½	36	58 6	65	105 7½	94	152 9
8	13 0	37	60 1½	66	107 3	95	154 4
9	14 7½	38	61 9	67	108 10½	96	156 0
10	16 3	39	63 4½	68	110 6	97	157 7½
11	17 10½	40	65 0	69	112 1½	98	159 3
12	19 6	41	66 7½	70	113 9	99	160 10½
13	21 1½	42	68 3	71	115 4½	100	162 6
14	22 9	43	69 10½	72	117 0	101	164 1½
15	24 4½	44	71 6	73	118 7½	102	165 9
16	26 0	45	73 1½	74	120 3	103	167 4½

Continued on Page 457.

No. SHEETS	WILL COVER		No. SHEETS	WILL COVER		No. SHEETS	WILL COVER		No. SHEETS	WILL COVER	
	SUP. FEET	SUP. IN.		SUP. FEET	SUP. IN.		SUP. FEET	SUP. IN.		SUP. FEET	SUP. IN.
17	27	7½	46	74	9	75	121	10½	104	169	0
18	29	3	47	76	4½	76	123	6	105	170	7½
19	30	10½	48	78	0	77	125	1½	106	172	3
20	32	6	49	79	7½	78	126	9	107	173	10½
21	34	1½	50	81	3	79	128	4½	108	175	6
22	35	9	51	82	10½	80	130	0	109	177	1½
23	37	4 ½	52	84	6	81	131	7½	110	178	9
24	39	0	53	86	1½	82	133	3	111	180	4½
25	40	7 ½	54	87	9	83	134	10½	112 or 1 Box	182	0
26	42	3	55	89	4½	84	136	6	224 or 2 Boxes	364	0
						(¾ Box)					
27	43	10½	56 (½ Box)	91	0	85	138	1½	336 or 3 Boxes	546	0
28	45	6 (¼ Box)	57	92	7½	86	139	9	448 or 4 Boxes	728	0
29	47	1½	58	94	3	87	141	4½	560 or 5 Boxes	910	0

ROOFING
TIN ROOF

Table showing the number of 14x20 Sheets required to cover a given number of superficial feet (flat seams), allowing $\frac{3}{8}$ inch all round for joints:

No. of Sheets	No. of Sup. Feet Will Cover		No. of Sheets	No. of Sup. Feet Will Cover		No. of Sheets	No. of Sup. Feet Will Cover		No. of Sheets	No. of Sup. Feet Will Cover		No. of Sup. Feet Will Cover		
	Ft.	In.		Ft.	In.		Ft.	In.		Ft.	In.	Boxes	Ft.	In.
1	1	8½	31	52	11½	61	104	2½	91	155	5½	¼	47	10½
2	3	5	32	54	8	62	105	11	92	157	2	½	95	8
3	5	1½	33	56	4½	63	107	7½	93	158	10½	¾	143	6
4	6	10	34	58	1	64	109	4	94	160	7	1	191	4
5	8	6½	35	59	9½	65	111	0½	95	162	3½	1¼	239	2
6	10	3	36	61	6	66	112	9	96	164	0	1½	287	0
7	11	11½	37	63	2½	67	114	5½	97	165	8½	1¾	334	10
8	13	8	38	64	11	68	116	2	98	167	5	2	382	8
9	15	4½	39	66	7½	69	117	10½	99	169	1½	2½	478	4
10	17	1	40	68	4	70	119	7	100	170	10	3	574	0
11	18	9½	41	70	0½	71	121	3½	101	172	6½	3½	669	8
12	20	6	42	71	9	72	123	0	102	174	3	4	765	4
13	22	2½	43	73	5½	73	124	8½	103	175	11½	4½	861	0
14	23	11	44	75	2	74	126	5	104	177	8	5	956	8
15	25	7½	45	76	10½	75	128	1½	105	179	4½	5½	1052	4

No. of Sheets	No. of Sup. Feet Will Cover		No. of Sheets	No. of Sup. Feet Will Cover		No. of Sheets	No. of Sup. Feet Will Cover		No. of Sheets	No. of Sup. Feet Will Cover		No. of Sup. Feet Will Cover	
	Ft.	In.		Ft.	In.		Ft.	In.		Ft.	In.	Boxes	Ft. In.
16	27	4	46	78	7	76	129	10	106	181	1	6	1148 0
17	29	0½	47	80	3½	77	131	5½	107	182	9½	7	1339 4
18	30	9	48	82	0	78	133	3	108	184	6	8	1530 8
19	32	5½	49	83	8½	79	134	11½	109	186	2½	9	1722 0
20	34	2	50	85	5	80	136	8	110	187	11	10	1913 4
21	35	10½	51	87	1½	81	138	4½	111	189	7½	11	2104 8
22	37	7	52	88	10	82	140	1	112	191	4	12	2296 0
23	39	3½	53	90	6½	83	141	9½	2 Boxes	(1 Box) 382	8	13	2487 4
24	41	0	54	92	3	84 (¾ Box)	143	6	3 Boxes	574	0	14	2678 8
25	42	8½	55	93	11½	85	145	2½	4 Boxes	765	4	15	2870 0
26	44	5	56 (½ Box)	95	8	86	146	11	5 Boxes	956	8	16	3061 4
27	46	1½	57	97	4½	87	148	7½	6 Boxes	1148	0	17	3252 8
28	47	10	58 (¼ Box)	99	1½	88	150	4	7 Boxes	1339	4	18	3444 0
29	49	6½	59 1 Square	100	9½	89	152	0½	8 Boxes	1530	8	19	3635 4
30	51	3	60	102	6	90	153	9	9 Boxes	1722	0	20	3826 8

NOTE.—If the roof requires 10 squares or 1,000 superficial feet, you will take next highest figure, which, according to table showing the number of boxes required for a given number of superficial feet is 1,052-4, which requires 5½ boxes of 14x20 inch tin. By so doing will give a few sheets surplus to allow for extra cutting, etc. (112 sheets of 14x20 inches, figured per box).

ROOFING

TIN ROOFING

Table showing the number of 20x28 inch Sheets of Tin required to cover a given number of superficial feet (standing seam):

No. of Sheets	No. of Sup. Feet Will Cover		No. of Sheets	No. of Sup. Feet Will Cover		No. of Sheets	No. of Sup. Feet Will Cover		No. of Boxes	No. of Sup. Feet Will Cover		No. of Sup. Feet Will Cover	No. of Sup. Feet Will Cover	
	Ft.	In.		Ft.	In.		Ft.	In.		Ft.	In.		Ft.	In.
1	3	3½	31	102	0½	61	200	9½	91	299	3½	92	2	
2	6	7	32	105	4	62	204	1	92	302	9	184	4	
3	9	10½	33	108	7½	63	207	4½	93	306	0½	276	6	
4	13	2	34	111	11	64	210	8	94	309	4	368	8	
5	16	5½	35	115	2½	65	213	11½	96	312	7½	460	10	
6	19	9	36	118	6	66	217	3	96	315	11	553	0	
7	23	0½	37	121	9½	67	220	6½	97	319	2½	645	2	
8	26	4	38	125	1	68	223	10	98	322	6	737	4	
9	29	7½	39	128	4½	69	227	1½	99	325	9½	829	6	
10	32	11	40	131	8	70	230	5	100	328	1	921	8	

No. of Sheets	No. of Sup. Feet Will Cover		No. of Sheets	No. of Sup. Feet Will Cover		No. of Sheets	No. of Sup. Feet Will Cover		No. of Boxes	No. of Sup. Feet Will Cover		No. of Boxes	No. of Sup. Feet Will Cover	
	Ft.	In.		Ft.	In.		Ft.	In.		Ft.	In.		Ft.	In.
11	36	2½	41	134	11½	71	233	8½	101	332	4½	2½	1013	10
12	39	6	42	138	3	72	237	0	102	335	8	3	1106	0
13	42	9½	43	141	6½	73	240	3½	103	338	11½	4	7414	8
14	46	1	44	144	10	74	243	7	104	342	3	5	1843	4
15	49	4½	45	148	1½	75	246	10½	105	345	6½	6	2212	0
16	52	8	46	151	5	76	250	2	106	348	10	7	2580	8
17	55	11½	47	154	8½	77	253	5½	107	352	1½	8	2949	4
18	59	3	48	158	0	78	256	8	108	355	5	9	3318	0
19	62	6½	49	161	3½	79	259	11½	109	358	8½	10	3686	8
20	65	10	50	164	7	80	263	3	110	362	0	11	4055	4
21	69	1½	51	167	10½	81	266	6½	111	365	3½	12	4424	0
22	72	5	52	171	2	82	269	10	112	368	7½	13	4792	8
23	75	8½	53	174	5½	83	273	1½	224	737	3	14	5161	4
24	79	0	54	177	9	84	276	5	336	1105	10½	15	5530	0
25	82	3½	55	181	0½	85	279	8½	448	1474	6	16	5998	8
26	85	7	56	184	4	86	283	0	560	1843	1	17	6267	4
27	88	10½	57	187	7½	87	286	3½	672	2211	9½	18	6636	0
28	92	2	58	190	11	88	289	7	784	2580	4½	19	7004	0
29	95	5½	59	194	2½	89	292	10½	896	2949	0	20	7373	4
30	98	9	60	197	6	90	296	2	1008	3317	7½	21	7742	0

EXAMPLE.—To find the amount of tin required for any size roof, figure the superficial feet of roof, then by the foregoing tables, for the number of sheets of tin required. If it be 100 superficial feet or 1 square, find the nearest high figure to it which shows 102-0½ superficial feet to the column on the left it shows 31 sheets will cover 1 square and 2 superficial feet over. To figure 30 sheets, the table shows they will cover 98 feet and 9 inches, therefore, we assume 31 sheets of 20x28 inches per square or 1 box of 112 sheets will cover 368-8 superficial feet. See last column to the right for large work. If there are 70 squares to be laid, the table shows it requires 19 boxes of tin.

TIN WORK

Table showing diameters and lengths of Down Spouts and the number of sheets required:

Diameter of Pipe	*No. of Sheets	Size of Sheet Tin	Length of Pipe Will Make		Diameter of Pipe	No. of Sheets	Size of Sheet Tin	Length of Pipe Will Make	
			Ft.	In.				Ft.	In.
2 In.	1	14x20 In.	3	3	2 In.	17	14x20 In.	55	3
2 In.	2	14x20 In.	6	6	2 In.	18	14x20 In.	58	6
2 In.	3	14x20 In.	9	9	2 In.	19	14x20 In.	61	9
2 In.	4	14x20 In.	13	0	2 In.	20	14x20 In.	65	0
2 In.	5	14x20 In.	16	3	2 In.	21	14x20 In.	68	3
2 In.	6	14x20 In.	19	6	2 In.	22	14x20 In.	71	0
2 In.	7	14x20 In.	22	9	2 In.	23	14x20 In.	74	9
2 In.	8	14x20 In.	26	0	2 In.	24	14x20 In.	78	0
2 In.	9	14x20 In.	29	3	2 In.	25	14x20 In.	81	0

Continued on Page 463.

2 In.	10	14x20 In.	32	6	2 In.	26	14x20 In.	84	6
2 In.	11	14x20 In.	35	9	2 In.	27	14x20 In.	87	9
2 In.	12	14x20 In.	39	0	2 In.	28	14x20 In.	91	0
						($\frac{1}{4}$ Box)			
2 In.	13	14x20 In.	42	3	2 In.	29	14x20 In.	94	3
2 In.	14	14x20 In.	45	6	2 In.	30	14x20 In.	97	6
2 In.	15	14x20 In.	48	9	2 In.	31	14x20 In.	100	9
2 In.	16	14x20 In.	52	0	2 In.	32	14x20 In.	104	0
2 In.	56	14x20 In.	182	0	2 In.	112	14x20 In.	364	0
						(1 Box)			
2 In.	84	14x20 In.	273	0	2 In.	224	14x20 In.	728	0
						(2 Boxes)			

3-INCH DIAMETER PIPES, 14x20 INCH SHEET TIN

Diameter of Pipe	No. of Sheets	Size of Sheet Tin	Length of Pipe Will Make		Diameter of Pipe	No. of Sheets	Size of Sheet Tin	Length of Pipe Will Make	
			Ft.	In.				Ft.	In.
3 In.	1	14x20 In.	2	3	3 In.	17	14x20 In.	38	3
3 In.	2	14x20 In.	4	6	3 In.	18	14x20 In.	40	6
3 In.	3	14x20 In.	6	9	3 In.	19	14x20 In.	42	9
3 In.	4	14x20 In.	9	0	3 In.	20	14x20 In.	45	0

Continued on Page 464.

Diameter of Pipe	No. of Sheets	Size of Sheet Tin	Length of Pipe Will Make		Diameter of Pipe	No. of Sheets	Size of Sheet Tin	Length of Pipe Will Make	
			Ft.	In.				Ft.	In.
3 In.	5	14x20 In.	11	3	3 In.	21	14x20 In.	47	3
3 In.	6	14x20 In.	13	6	3 In.	22	14x20 In.	49	6
3 In.	7	14x20 In.	15	9	3 In.	23	14x20 In.	51	9
3 In.	8	14x20 In.	18	0	3 In.	24	14x20 In.	54	0
3 In.	9	14x20 In.	20	3	3 In.	25	14x20 In.	56	3
3 In.	10	14x20 In.	22	6	3 In.	26	14x20 In.	58	6
3 In.	11	14x20 In.	24	9	3 In.	27	14x20 In.	60	9
3 In.	12	14x20 In.	27	0	3 In.	28	14x20 In.	63	0
						($\frac{1}{4}$ Box)			
3 In.	13	14x20 In.	29	3	3 In.	29	14x20 In.	65	3
3 In.	14	14x20 In.	31	6	3 In.	30	14x20 In.	67	6
3 In.	15	14x20 In.	33	9	3 In.	31	14x20 In.	69	9
3 In.	16	14x20 In.	36	0	3 In.	32	14x20 In.	72	0
3 In.	56	14x20 In.	126	0	3 In.	112	14x20 In.	252	0
	($\frac{1}{2}$ Box)					(1 Box)			
3 In.	84	14x20 In.	189	0	3 In.	224	14x20 In.	504	0
	($\frac{3}{4}$ Box)					(2 Boxes)			

TIN WORK

Table showing diameters and lengths of Down Spouts, etc., and the number of sheets required:

Diameter of Pipe	No. of Sheets	Size of Sheet Tin	Length Of Pipe Will Make		Diameter of Pipe	No. of Sheets	Size of Sheet Tin	Length of Pipe Will Make	
			Ft.	In.				Ft.	In.
4 In.	2	14x20 In.	3	4½	4 In.	34	14x20 In.	57	4½
4 In.	4	14x20 In.	6	9	4 In.	36	14x20 In.	60	9
4 In.	6	14x20 In.	10	11½	4 In.	38	14x20 In.	64	1½
4 In.	8	14x20 In.	13	6	4 In.	40	14x20 In.	67	6
4 In.	10	14x20 In.	16	10½	4 In.	42	14x20 In.	70	10½
4 In.	12	14x20 In.	20	3	4 In.	44	14x20 In.	74	3
4 In.	14	14x20 In.	23	7½	4 In.	46	14x20 In.	77	7½
4 In.	16	14x20 In.	27	0	4 In.	48	14x20 In.	81	0
4 In.	18	14x20 In.	30	4½	4 In.	50	14x20 In.	84	4½
4 In.	20	14x20 In.	33	9	4 In.	52	14x20 In.	87	9
4 In.	22	14x20 In.	37	1½	4 In.	54	14x20 In.	91	1½
4 In.	24	14x20 In.	40	6	4 In.	56 (½ Box)	14x20 In.	94	6
4 In.	26	14x20 In.	43	10½	4 In.	58	14x20 In.	97	10½
4 In.	28	14x20 In.	47	3	4 In.	60	14x20 In.	101	3

Continued on Page 466.

Diameter of Pipe	No. of Sheets	Size of Sheet Tin	Length of Pipe Will Make		Diameter of Pipe	No. of Sheets	Size of Sheet Tin	Length of Pipe Will Make	
			Ft.	In.				Ft.	In.
4 In.	($\frac{1}{4}$ Box)	14x20 In.	50	7 $\frac{1}{2}$	4 In.	62	14x20 In.	104	7 $\frac{1}{2}$
4 In.	32	14x20 In.	54	0	4 In.	64	14x20 In.	108	0
4 In.	84	14x20 In.	141	9	4 In.	112	14x20 In.	189	0
	($\frac{3}{4}$ Box)								

6-INCH DIAMETER PIPES, 14x20 INCH SHEET TIN

Diameter of Pipe	No. of Sheets	Size of Sheet Tin	Length of Pipe Will Make		Diameter of Pipe	No. of Sheets	Size of Sheet Tin	Length of Pipe Will Make	
			Ft.	In.				Ft.	In.
6 In.	1	14x20 In.	1	1 $\frac{1}{2}$	6 In.	17	14x20 In.	19	1 $\frac{1}{2}$
6 In.	2	14x20 In.	2	3	6 In.	18	14x20 In.	20	3
6 In.	3	14x20 In.	3	4 $\frac{1}{2}$	6 In.	19	14x20 In.	21	4 $\frac{1}{2}$
6 In.	4	14x20 In.	4	6	6 In.	20	14x20 In.	22	6
6 In.	5	14x20 In.	5	7 $\frac{1}{2}$	6 In.	21	14x20 In.	23	7 $\frac{1}{2}$
6 In.	6	14x20 In.	6	9	6 In.	22	14x20 In.	24	9
6 In.	7	14x20 In.	7	10 $\frac{1}{2}$	6 In.	23	14x20 In.	25	10 $\frac{1}{2}$
6 In.	8	14x20 In.	9	0	6 In.	24	14x20 In.	27	0

Continued on Page 467.

Girth of Gutter	No. of Sheets	Size of Sneets	Length of Gutter Each Sheet Makes Ft. In.	Girth of Gutter	No. of Sheets	Size of Sheets	Length of Gutter Each Sheet Makes Ft. In.
6 In.	9	14x20 In.	10 1½	6 In.	25	14x20 In.	28 1½
6 In.	10	14x20 In.	11 3	6 In.	26	14x20 In.	29 3
6 In.	11	14x20 In.	12 4½	6 In.	27	14x20 In.	30 4½
6 In.	12	14x20 In.	13 6	6 In.	28	14x20 In.	31 6
					(¼ Box)		
6 In.	13	14x20 In.	14 7½	6 In.	29	14x20 In.	32 7½
6 In.	14	14x20 In.	15 9	6 In.	30	14x20 In.	33 9
6 In.	15	14x20 In.	16 10½	6 In.	31	14x20 In.	34 10½
6 In.	16	14x20 In.	18 0	6 In.	32	14x20 In.	36 0
6 In.	28	14x20 In.	31 6	6 In.	140	14x20 In.	157 6
	(¼ Box)				1¼ Box		
6 In.	56	14x20 In.	63 0	6 In.	168	14x20 In.	189 0
	(½ Box)				1½ Box		
6 In.	84	14x20 In.	94 6	6 In.	196	14x20 In.	220 0
	(¾ Box)				1¾ Box		
6 In.	112	14x20 In.	126 0	6 In.	224	14x20 In.	252 0
	(1 Box)				(2 Boxes)		

TIN WORK—SEMI-CIRCULAR GUTTERS

Girth of Gutter	No. of Sheets	Size of Sheets	Length of Gutter Each Sheet Makes Ft. In.	Girth of Gutter	No. of Sheets	Size of Sheets	Length of Gutter Each Sheet Makes Ft. In.
19 Inches	1	14x20 Inches	1 1½	19 Inches	17	14x20 Inches	19 1½
19 Inches	2	14x20 Inches	2 3	19 Inches	18	14x20 Inches	20 3
19 Inches	3	14x20 Inches	3 4½	19 Inches	19	14x20 Inches	21 4½
19 Inches	4	14x20 Inches	4 6	19 Inches	20	14x20 Inches	22 6
19 Inches	5	14x20 Inches	5 7½	19 Inches	21	14x20 Inches	23 7½
19 Inches	6	14x20 Inches	6 9	19 Inches	22	14x20 Inches	24 9
19 Inches	7	14x20 Inches	7 10½	19 Inches	23	14x20 Inches	25 10½
19 Inches	8	14x20 Inches	8 0	19 Inches	24	14x20 Inches	27 0
19 Inches	9	14x20 Inches	9 1½	19 Inches	25	14x20 Inches	28 1½
19 Inches	10	14x20 Inches	10 3	19 Inches	26	14x20 Inches	29 3
19 Inches	11	14x20 Inches	11 4½	19 Inches	27	14x20 Inches	30 4½
19 Inches	12	14x20 Inches	12 6	19 Inches	28	14x20 Inches	31 6
19 Inches	13	14x20 Inches	13 7½	19 Inches	28 Sheets	14x20 Inches	63 0
19 Inches	14	14x20 Inches	14 9	19 Inches	(½ B9x)	14x20 Inches	94 6
19 Inches	15	14x20 Inches	15 10½	19 Inches	(¾ Box)	14x20 Inches	126 0
19 Inches	16	14x20 Inches	16 0	19 Inches	112	14x20 Inches	252 0
					(1 B9x)		
					224		
					(2 Boxes)		

Gutters and Spouts vary in prices owing to the cost of tin, labour, etc.

4-Inch Gutters cost put up.....	13 to 14 cents per foot	lineal
5-Inch Gutters cost put up.....	15 to 16 cents per foot	lineal
6-Inch Gutters cost put up.....	18 to 19 cents per foot	lineal
2-Inch Down Spouts, put up.....	11 to 12 cents per foot	lineal
3-Inch Down Spouts cost put up.....	13 to 14 cents per foot	lineal
4-Inch Down Spouts cost put up.....	15 to 18 cents per foot	lineal
6-Inch Down Spouts cost put up.....	30 to 35 cents per foot	lineal
Valley on shingle and slate roofs.....	13 to 14 cents per square foot	
Flashing.....	14 to 15 cents per square foot	

TIN WORK

SEMI-CIRCULAR GUTTERS

Girth of Gutter	No. of Sheets	Size of Sheets	Length of Gutter Each		Girth of Gutter	No. of Sheets	Size of Sheets	Length of Gutter Each	
			Ft.	In.				Ft.	In.
13 Inches	1	14x20 Inches	1	7½	13 Inches	21	14x20 Inches	34	1½
13 Inches	2	14x20 Inches	3	3	13 Inches	22	14x20 Inches	35	9
13 Inches	3	14x20 Inches	4	10½	13 Inches	23	14x20 Inches	37	4½
13 Inches	4	14x20 Inches	6	6	13 Inches	24	14x20 Inches	39	0

Girth of Gutter	No of Sheets	Size of Sheets	Length of Gutter Each Sheet Makes Lineal Ft.	In.	Girth of Gutter	No. of Sheets	Size of Sheets	Length of Gutter Each Sheet Makes Lineal Ft.	In.
13 Inches	5	14x20 Inches	8	1½	13 Inches	25	14x20 Inches	40	7½
13 Inches	6	14x20 Inches	9	9	13 Inches	26	14x20 Inches	42	3
13 Inches	7	14x20 Inches	11	4½	13 Inches	27	14x20 Inches	43	10½
13 Inches	8	14x20 Inches	13	0	13 Inches	28	14x20 Inches	45	6
13 Inches	9	14x20 Inches	14	7½		(¼ Box)			
13 Inches	10	14x20 Inches	16	3	13 Inches	56	14x20 Inches	91	0
13 Inches	11	14x20 Inches	17	10½		(½ Box)			
13 Inches	12	14x20 Inches	19	6	13 Inches	84	14x20 Inches	136	6
13 Inches	13	14x20 Inches	21	1½		(¾ Box)			
13 Inches	14	14x20 Inches	22	9	13 Inches	112	14x20 Inches	182	0
13 Inches	15	14x20 Inches	24	4½		(1 Box)			
13 Inches	16	14x20 Inches	26	0	13 Inches	224	14x20 Inches	364	0
13 Inches	17	14x20 Inches	27	7½		(2 Boxes)			
13 Inches	18	14x20 Inches	29	3	13 Inches	336	14x20 Inches	546	0
13 Inches	19	14x20 Inches	30	10½		(3 Boxes)			
13 Inches	20	14x20 Inches	32	6					

NOTE.—The foregoing tables on sheet metal are figured on the size. Plates of 14x20 as being very little waste, if any, and with a single seam in the pipes. The larger sizes either leave a waste of tin on every

cost per box, also price per sheet.

EXAMPLE.—We will say the 14x20 inch tin costs \$7.00 per box; the table of cost on the following page shows at \$7.00 cost per sheet, 6¼ cents. We have a gutter that will girt 13 inches and there are 26 lineal feet. We find in tables of cost on gutters of 13 inch girth at 26 feet, it requires 16 sheets of 14x20 inches. Sixteen sheets at 6¼ cents equals \$1.00 divided by 26 equals 3 11-13 cents per foot lineal for tin, say 4 cents.

TIN WORK

COST OF ROOFING TIN PER BOX (112 SHEETS), 14x20 INCHES; ALSO COST OF TIN PER SQUARE
FLAT SEAM

NOTE.—The following prices per square does not allow for waste. Figure 1 or 2 sheets to each square for wastage.

Cost of tin per box.....	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00
Cost per square.....	3.12	3.25	3.38	3.51	3.64	3.77	3.90	4.03	4.16
Cost of tin per box.....	8.25	8.50	8.75	9.00	9.25	9.50	9.75	10.00	10.25
Cost per square.....	4.29	4.42	4.55	4.68	4.81	4.94	5.07	5.20	5.33
14x20 INCH TIN STANDING SEAM, 112 SHEETS PER BOX									
Cost of tin per box.....	\$ 6.00	\$ 6.25	\$ 6.50	\$ 6.75	\$ 7.00	\$ 7.25	\$ 7.50	\$ 7.75	\$ 8.00
Cost per square.....	3.34	3.48	3.62	3.76	3.90	4.03	4.17	4.31	4.45
Cost of tin per box.....	8.25	8.50	8.75	9.00	9.25	9.50	9.75	10.00	10.25
Cost per square.....	4.59	4.73	4.87	5.01	5.15	5.29	5.43	5.57	5.71

20x28 INCH TIN, FLAT SEAM, 112 SHEETS PER BOX

Cost of tin per box.....	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00	\$13.25	\$13.50	\$13.75	\$14.00
Cost per square.....	3.00	3.06	3.13	3.19	3.25	3.31	3.38	3.44	3.50
Cost of tin per box.....	\$14.25	14.50	14.75	15.00	15.25	15.50	15.75	16.00	16.25
Cost per square.....	3.56	3.63	3.69	3.75	3.81	3.88	3.94	4.01	4.07
Cost of tin per box.....	\$16.50	16.75	17.00	17.25	17.50	18.00	18.50	19.00	19.50
Cost per square.....	4.13	4.19	4.26	4.32	4.38	4.51	4.63	4.76	4.88

20x28 INCH TIN, STANDING SEAM, 112 SHEETS PER BOX

Cost of tin per box.....	\$12.00	\$12.25	\$12.50	\$12.75	\$13.00	\$13.25	\$13.50	\$13.75	\$14.00
Cost per square.....	3.21	3.28	3.35	3.41	3.48	3.55	3.62	3.68	3.75
Cost of tin per box.....	\$14.25	14.50	14.75	15.00	15.25	15.50	15.75	16.00	16.25
Cost per square.....	3.82	3.89	3.95	4.02	4.08	4.15	4.22	4.29	4.35
Cost of tin per box.....	\$16.50	16.75	17.00	17.25	17.50	18.00	18.50	19.00	19.50
Cost per square.....	4.42	4.49	4.56	4.62	4.69	4.82	4.96	5.09	5.23

COST OF SOLDER PER POUND, ALSO COST PER SQUARE, 14x20 INCH TIN

Cost per pound (cts.).....	7	7½	8	8½	9	9½	10	10½	11
Cost per square (cts.).....	52½	56½	60	63¾	67½	71¼	75	78¾	82¾

COST OF SOLDER PER POUND, ALSO COST PER SQUARE, 40x40 INCH TIN

Cost per pound (cts.).....	7	7½	8	8½	9	9½	10	10½	11
Cost per square (cts.).....	35	37½	40	42½	45	47½	50	52½	55

COST OF ROSIN PER POUND, ALSO COST PER SQUARE, 14x20 INCH TIN

Cost per pound (cts.).....	3	3¼	3½	3¾	4	4¼	4½	4¾	5
Cost per square (cts.).....	4½	4¾	5¼	5½	6	6¾	7½	7¾	7½

COST OF ROSIN PER POUND, ALSO COST PER SQUARE, 20x28 INCH TIN

Cost per pound (cts.).....	3	3¼	3½	3¾	4	4¼	4½	4¾	5
Cost per square (cts.).....	3	3¼	3½	3¾	4	4¼	4½	4¾	5

Figure 8 to 10 cents per square for charcoal.

TIN WORK

LABOR COST LAYING 14x20 INCH TIN

(8 Hours per day).

Wages Tinner....	\$ 2.75	\$ 3.00	\$ 3.25	\$ 3.50	\$ 3.75	\$ 4.00	\$ 4.25	\$ 4.50	\$ 4.75	\$ 5.00
Cost, square.....	1.96	2.14	2.32	2.50	2.68	2.86	3.04	3.22	3.40	3.58

LABOR COST LAYING 20x28 INCH TIN

(8 Hours per day).

Wages Tinner....	\$ 2.75	\$ 3.00	\$ 3.25	\$ 3.50	\$ 3.75	\$ 4.00	\$ 4.25	\$ 4.50	\$ 4.75	\$ 5.00
Cost, square.....	1.37½	1.50	1.62½	1.75	1.87½	2.00	2.12½	2.25	2.37½	2.50

I the tin has to be painted charge \$1.45 to \$1.55 per square for two-coat work.

COST OF ORNAMENTAL STEEL CEILING

Cost per sq. foot...	\$.05	\$.05 1/4	\$.05 1/2	\$.05 3/4	\$.06	\$.06 1/4	\$.06 1/2	\$.06 3/4	\$.07	\$.07 1/4
Cost per square...	\$ 5.00	5.25	5.50	5.75	6.00	6.25	6.50	6.75	7.00	7.25
Cost per sq. foot..	.07 1/2	.07 3/4	.08	.08 1/4	.08 1/2	.08 3/4	.09	.09 1/4	.09 1/2	.10
Cost per square...	7.50	7.75	8.00	8.25	8.50	8.75	9.00	9.25	9.50	10.00

LABOR COST ERECTING STEEL CEILING, PLAIN WORK, LARGE ROOMS

Wages 8 hours.....	\$ 3.00	\$ 3.25	\$ 3.50	\$ 3.75	\$ 4.00	\$ 4.25	\$ 4.50	\$ 4.75	\$ 5.00
Cost per square foot.....	.01	1 1-12	.01 1/6	.01 1/4	.01 1/2	1 5-12	.01 1/2	1 7-12	.01 3/4
Cost per square.....	\$ 1.00	1.08	1.17	1.25	1.33	1.41	1.50	1.58	1.66

474

LABOR COST ERECTING STEEL CEILING, INCLUDING ORDINARY CORNICE AND

CENTERS

Wages 8 hours.....	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost per square foot.....	1 5-7	1 6-7	.02	2 1-7	2 2-7	2 3-7	2 4-7	2 5-7	2 6-7
Cost per square.....	\$1.71	\$1.85	\$2.00	\$2.14	\$2.28	\$2.42	\$2.56	\$2.70	\$2.84

NOTE.—The foregoing prices on Steel Ceiling does not include cost of wood work, see Carpenter Work.

CARPENTER WORK

The most correct method of estimating all building work is by figuring actual quantities of materials and pricing same as they are obtained from the dealers. The second item is to add the cost of labor for placing

it into place, which will be found in these works. There are several methods in estimating building work. The advice of the author is to use the reliable and just way, figure by actual quantities and the cost of labor placing same. In other words, try and figure the actual amount of material you will have to purchase and what amount of money it will cost to pay all labor for doing the work.

The young contractor or estimator should have a fair knowledge of arithmetic before he can hope to become successful in estimating construction work. If you have an ordinary school education and careful in using it, we see nothing to hinder you from going ahead successfully.

The next important item is to learn plans, how to scale accurately in order to get the proper amount of material required to build the work. You are asked to figure on a building, examine the plans, details and specifications, see what scale is marked on the plans per foot lineal. All plans should be marked thus: $\frac{1}{8}$ inch to the foot, $\frac{1}{8}$ inch to the foot, $\frac{3}{8}$ inch to the foot, $\frac{1}{4}$ inch to the foot, etc. One-fourth inch to the foot means every quarter of an inch on your rule means one foot measurement on the work. As there are four-sixteenths to one quarter, one-sixteenth would mean 3 inches, two-sixteenths or one-eighth equals 6 inches, three-sixteenths means 9 inches, four-sixteenths or one-fourth of an inch means 12 inches or 1 foot. In other words, if the scale on plans are marked $\frac{1}{4}$ inch to the foot, one inch equals 4 feet because there are four quarters to the inch; 6 inches on the rule would figure 24 feet on the work because there are six times $\frac{1}{4}$ inch which equals twenty-four one quarters. If the plans are marked $\frac{1}{8}$ inch to the foot, it means every $\frac{1}{8}$ inch equals 1 foot, 1 inch equals 8 feet because there are eight eighths in 1 inch, one-half of one-eighth equals 6 inches or one-sixteenth equals 6 inches. The same rules carries out on all similar scales marked on plans. Always use figures when marked on plans in preference to scaling.

In pricing wood work, make up a lumber bill, giving the total pieces of each kind or size of lumber required to complete the work. After this has been done, figure each item in board measure, which can be had from tables on lumber measures on rear pages. For example: We need 50 2"x12"x16'-0", the table shows there are 32 feet board measure in one 2"x12"x16'-0" and 50x32 equals 1,600 feet board measure. There

are 22 pieces 2"x4"x12'-0", table shows 8 feet board measure to one piece, 22 pieces times 8 feet board measure equals 176 feet board measure.

In pricing the labor carry out the same rule. If the cost table on labor shows 1 cent per foot lineal and the timber is 16 feet long, 16 feet by 1 cent equals 16 cents for one piece; multiply this by total pieces.

CONTRACTS FOR WORKMANSHIP AND MATERIALS

The importance of written agreements in every business arrangement especially for work and materials of any kind to be provided by one party for another, cannot be too highly valued.

A page of common paper and 30 minutes time taken to state in writing what is expected of each party, will frequently save much trouble and often costing in the end more than the sum in dispute.

The annex "Article of Agreement" will be found to cover nearly every form required for building contracts and with such slight changes as will suggest themselves to anyone interested, will cover the entire range of agreements for either work or materials, or both.

When security is given, a separate bond may be used, but the most direct and convenient form, is to make the surety a party to the contract. Contractors may require security for their pay, although they may have a sufficient guarantee in the mechanics lien against ultimate loss. Local customs and usages must of course, govern in many individual cases, but the ground covered in the accompanying form will be found sufficient for a very large proportion of all contracts made.

ARTICLE OF AGREEMENT

Made and entered into this first day of March, 1913, by and between D. Kavanaugh, of St. Louis, Mo., as party of the first part and Robert Lee, of St. Louis, Mo., as principal, and John Holmes, of St. Louis, as security, a party of second part.

WITNESSETH: That the party of second part agrees and hereby binds himself to furnish all the materials and labor, including tools, scaffolding, etc., necessary to execute and finish complete the building to be erected for party of first part on the north side of Olive street between Twenty-first and Twenty-second streets, St. Louis, Mo., according to the drawings and specifications prepared therefor by I. Taylor, architect, and which are signed and made part of this agreement, for and in consideration of the sum of fifty-six thousand dollars (\$56,000.00); said amount to be paid as hereinafter provided. The party of second part also agrees, that the work shall be commenced on or before the first day of April, 1913, provided he can have access to the premises at that date; that it shall be in strict conformity to the drawings and specifications; that he will not, in any way, hinder or delay the other contractors in the performance of their contracts and that the whole job shall be pushed on to completion as rapidly as practicable, consistent with its own durability and safety and shall be finished complete in every particular on or before the first of January, 1914, and in case of failure to complete the work at that date, he shall pay damages to be assessed in a sum equal to \$10.00 for each and every day the work is delayed beyond the time specified through the fault of said party of second part, to be retained out of any money that may be unpaid on this contract, or to be recovered by the methods provided by law.

It is mutually agreed that the work shall be under the supervision and direction of Geo. Greely, superintendent, who shall have the power to stop and reject any work or materials not in accordance with the drawings and specifications, and who shall have the power in case of failure by party of second part, to rectify the errors or to finish the work within contract date, to employ other parties to finish the work at the cost and expense of said party of second part. It is furthermore mutually agreed that if the party of first part shall, at any time, desire any changes in either the quantity or quality of the work, they shall be acceded to and executed by party of second part without, in any way, violating, or violating this contract, but the value of such changes must be agreed upon and endorsed upon this contract before going into execution, or no all advance shall be made for them by either party.

In consideration of the prompt and faithful performance of the foregoing terms and agreements, the said party of the first part agrees and hereby binds himself to pay the said party of second part, the aforesaid sum of fifty-six thousand dollars (\$56,000.00), in the following manner, viz.: Ten thousand dollars when foundation walls are built, ten thousand dollars for each of the other floors and the remainder at the final completion of the building.

IN WITNESS WHEREOF, we have affixed our signatures and seals this 1st day of March, 1913, in the City of St. Louis, Mo.

D. KAVANAU (SEAL)
ROBERT LEE (SEAL)
JOHN HOLMES (SEAL)

WITNESSES:

B. ALBREIGHT,
J. THOMPSON.

CARPENTER WORK

BASEBOARD WITH PLAIN QUARTER ROUND AT FLOOR

Carpenter's wages 10 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot (cts.).....	2 2-5	2 3-5	2 4-5	.03	3 1-5	3 2-5	3 3-5	3 4-5	.04
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.02 $\frac{1}{4}$	.02 $\frac{1}{4}$	.03 $\frac{1}{4}$	.03 $\frac{1}{4}$	.03 $\frac{1}{4}$	.03 $\frac{1}{4}$	.04	.04 $\frac{1}{4}$	.04 $\frac{1}{2}$
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.03	.03 $\frac{1}{4}$	.03 $\frac{1}{4}$	.03 $\frac{1}{4}$	.04	.04 $\frac{1}{4}$	.04 $\frac{1}{4}$	.04 $\frac{1}{4}$	.05

BASEBOARD WITH TOP MOULDING, QUARTER-ROUND AT FLOOR—LARGE ROOMS

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.03	.03 1/4	.03 1/2	.03 3/4	.04	.04 1/4	.04 1/2	.04 3/4	.05
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.03 3/8	.03 1/2	.03 5/8	.04 1/4	.04 1/2	.04 3/4	.05 1/8	.05 3/8	.05 5/8
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.03 3/4	.04 1/8	.04 3/8	.04 1/2	.05	.05 1/8	.05 3/8	.05 5/8	.06 1/4

HARD WOOD BASEBOARD WITH TOP MOULDING, QUARTER-ROUND, CUT UP BY ANGLES, PILASTERS, ETC.

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.05	.05 1/8	.05 1/4	.05 1/2	.06 1/4	.06 1/2	.07 1/8	.07 1/4	.08 3/8
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.05 1/2	.05 5/8	.06 1/8	.06 1/4	.07 1/8	.07 3/4	.08 3/8	.08 5/8	.09 1/8
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.06	.06 1/2	.07	.07 1/2	.08	.08 1/2	.09	.09 1/2	.10

MILL WORKED BALUSTRADES FOR PIAZZAS, BALCONIES OR ROOFS

(3-Inch Square by 18 Inches or Less. For Each Inch Longer, Add 1/4 Cent)

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost each to set.....	.06	.06 1/2	.07	.07 1/2	.08	.08 1/2	.09	.09 1/2	.10

Continued on Page 480

Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost each to set.....	.06 $\frac{3}{4}$	.07 $\frac{5}{8}$	.07 $\frac{7}{8}$	.08 $\frac{1}{8}$	.09	.09 $\frac{9}{16}$	.10 $\frac{1}{8}$	.10 $\frac{9}{16}$	.11 $\frac{1}{4}$
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost each to set.....	.07 $\frac{1}{2}$	.08 $\frac{1}{8}$	.08 $\frac{3}{4}$	.09 $\frac{3}{8}$	.10	.10 $\frac{5}{8}$	.11 $\frac{1}{4}$	.11 $\frac{7}{8}$	.12 $\frac{1}{2}$

BOND TIMBERS, 2x8 INCH OR LESS

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot (cts.).....	1 1-5	1 3-10	1 2-5	.01 $\frac{1}{2}$	1 3-5	1 7-10	1 4-5	1 9-10	.02
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot (cts.).....	.01 $\frac{1}{8}$	1 4-9	1 5-9	.01 $\frac{3}{8}$	1 7-9	1 8-9	.02	2 1-9	2 2-9
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.01 $\frac{1}{2}$	.01 $\frac{5}{8}$	.01 $\frac{3}{4}$	.01 $\frac{7}{8}$	.02	.02 $\frac{1}{8}$	.02 $\frac{1}{4}$	.02 $\frac{3}{8}$	.02 $\frac{1}{2}$

CARPENTER WORK

BATTON DOORS MADE OF $\frac{7}{8}$ x6 INCH T. AND G. MILL DRESSED—TWO BATTONS NAILED ON

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square foot (cts.).....	2 2-5	2 3-5	2 4-5	.03	3 1-5	3 2-5	3 3-5	3 4-5	.04
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square foot.....	.02 $\frac{1}{8}$	.02 $\frac{1}{4}$	.03 $\frac{1}{8}$	.03 $\frac{3}{8}$	.03 $\frac{1}{2}$	.03 $\frac{5}{8}$	.04	.04 $\frac{1}{4}$	.04 $\frac{1}{2}$
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square foot.....	.03	.03 $\frac{1}{4}$	.03 $\frac{1}{2}$	.03 $\frac{3}{4}$	.04	.04 $\frac{1}{4}$	.04 $\frac{1}{2}$	.04 $\frac{3}{4}$	.05

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square foot.....	.02 $\frac{3}{4}$	.02 $\frac{5}{8}$	.03 $\frac{1}{8}$	.03 $\frac{3}{8}$	.03 $\frac{1}{2}$	.03 $\frac{5}{8}$	.04 $\frac{1}{8}$	.04 $\frac{1}{2}$	.04 $\frac{3}{4}$
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square foot.....	.03	.03 $\frac{1}{4}$	.03 $\frac{1}{2}$	.03 $\frac{3}{4}$	.04	.04 $\frac{1}{4}$	.04 $\frac{1}{2}$	.04 $\frac{3}{4}$	.05
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square foot.....	.03 $\frac{3}{8}$	.03 $\frac{1}{2}$	.03 $\frac{5}{8}$	.04 $\frac{1}{4}$	.04 $\frac{1}{2}$	.04 $\frac{3}{8}$	.05 $\frac{1}{8}$	.05 $\frac{1}{2}$	.05 $\frac{3}{4}$

BATTON DOORS, $\frac{1}{8}$ x6 INCH, T. AND G. MILL DRESSED—TWO BATTONS SCREWED ON

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square foot (cts.).....	3 2-5	3 3-5	3 4-5	.04	4 1-5	4 2-5	4 3-5	4 4-5	.05
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square foot.....	.03 $\frac{5}{8}$	.03 $\frac{7}{8}$	.04 $\frac{1}{8}$	.04 $\frac{3}{8}$	.04 $\frac{1}{2}$	.04 $\frac{5}{8}$	.05	.05 $\frac{1}{4}$	.05 $\frac{1}{2}$
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square foot.....	.04	.04 $\frac{1}{4}$	.04 $\frac{1}{2}$	.04 $\frac{3}{4}$	.05	.05 $\frac{1}{4}$	.05 $\frac{1}{2}$	.05 $\frac{3}{4}$	.06

BATTON DOORS, $\frac{1}{8}$ x6 INCH, T. AND G. MILL DRESSED—THREE BATTONS SCREWED ON

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square foot.....	.03 $\frac{3}{4}$	.03 $\frac{5}{8}$	.04 $\frac{1}{8}$	.04 $\frac{1}{4}$	.04 $\frac{1}{2}$	.04 $\frac{3}{8}$	.05 $\frac{1}{8}$	.05 $\frac{1}{2}$	.05 $\frac{3}{4}$
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square foot.....	.04	.04 $\frac{1}{4}$	.04 $\frac{1}{2}$	.04 $\frac{3}{4}$	.05	.05 $\frac{1}{4}$	.05 $\frac{1}{2}$	.05 $\frac{3}{4}$	.06

Continued on Page 482

Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square foot.....	.04 $\frac{3}{4}$	.04 $\frac{1}{2}$	.04 $\frac{1}{4}$	.05 $\frac{1}{4}$	.05 $\frac{1}{2}$	.05 $\frac{3}{4}$	.06 $\frac{1}{4}$	.06 $\frac{3}{4}$	.06 $\frac{1}{2}$

The foregoing prices are for making doors only; hardware not included.

CARPENTER WORK

BASE OR JAMB BLOCKS, CUT FROM 2x4 OR 3x4 LUMBER—8 INCHES OR LENGTH OF BRICK

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost per block.....	1 1-5	1 3-10	1 2-5	.01 $\frac{1}{2}$	1 3-5	1 7-10	1 4-5	1 9-10	.02
Cost lineal foot.....	.01 $\frac{3}{4}$	.01 $\frac{1}{2}$	.02	2 1-12	2 2-9	.02 $\frac{1}{4}$	.02 $\frac{1}{2}$	.02 $\frac{3}{4}$	2 7-9
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost per block.....	.01 $\frac{1}{4}$	1 4-9	1 5-9	.01 $\frac{3}{4}$	1 7-9	1 8-9	.02	2 1-9	2 2-9
Cost lineal foot.....	.01 $\frac{1}{2}$	.02	.02 $\frac{3}{4}$	.02 $\frac{1}{2}$	.02 $\frac{1}{4}$	.02 $\frac{1}{2}$	.02 $\frac{3}{4}$	.03	.03 $\frac{1}{2}$
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost per block.....	.01	.01 $\frac{1}{4}$	.01 $\frac{1}{2}$	.01 $\frac{3}{4}$	.02	.02 $\frac{1}{4}$	.02 $\frac{1}{2}$	.02 $\frac{3}{4}$	.02 $\frac{1}{2}$
Cost lineal foot.....	2 1-12	.02 $\frac{1}{4}$	2 5-12	2 5-9	2 7-9	2 8-9	.03 $\frac{1}{4}$	.03 $\frac{1}{2}$	.03 $\frac{1}{4}$

If any of the blocks are placed in the walls after they are built, charge double.

PLUGGING WALLS FOR GROUNDS, ETC.—CUT TO WEDGE

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost each plug.....	.02	.02 $\frac{1}{4}$	.02 $\frac{1}{2}$	.02 $\frac{3}{4}$	.02 $\frac{1}{2}$	2 5-6	.03	.03 $\frac{1}{4}$	.03 $\frac{1}{2}$
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost each plug.....	.02 $\frac{1}{4}$	.02 $\frac{1}{2}$	.02 $\frac{3}{4}$	.02 $\frac{1}{2}$	.02 $\frac{1}{4}$	.03 $\frac{1}{4}$	.03 $\frac{1}{2}$	.03 $\frac{3}{4}$	.03 $\frac{1}{4}$

Continued on Page 483

Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost each plug.....	.02½	.02½	.02½	.03	.03½	.03½	.03¾	.03¾	.04¾

BRACKETING OR LOOKOUTS, CUT FROM W INCH LUMBER, CORNICES, ETC.

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.04½	.04½	.05	.05½	.05½	.06½	.06½	.06¾	.07½
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.04¼	.05¼	.05¼	.06¼	.06¼	.06¾	.07¼	.07	.08
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.5	\$4.75	\$5.00
Cost lineal foot.....	.05¾	.05¾	.06¼	.06¼	.07½	.07½	.08	.08¾	.08¾

If bracketing is cut from 2-inch lumber, add 50% to the above prices. In measuring Bracketing or Lookouts girth or measure on the line where cutting has been done or in other words, all parts where members of mouldings, etc., are attached; also include all the length of piece. This class of work is where so many carpenters run short on their estimate, especially when there is a great amount of it required. It is not only the labor cutting out the material, but the cost of placing it properly. For Circular or Elliptical work, charge double the above prices.

CARPENTER WORK

BRIDGING JOIST, 2 INCH BY 3 INCH OR LESS, 2x12 INCH JOIST OR LESS, SET 16 INCHES ON CENTERS

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot (cts.).....	1 1-5	1 3-10	1 2-5	.1½	1 3-5	1 7-10	1 4-5	1 9-10	.02

Continued on Page 484

Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.	.01 $\frac{1}{8}$	1 4-9	1 5-9	.01 $\frac{3}{8}$	1 7-9	1 8-9	.02	2 1-9	2 2-9
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.	.01 $\frac{1}{2}$	.01 $\frac{5}{8}$	.01 $\frac{3}{4}$	.01 $\frac{7}{8}$	.02	.02 $\frac{1}{8}$	.02	.02 $\frac{3}{8}$	.02 $\frac{1}{2}$

Bridging Joist is a very difficult piece of work to estimate on, not because it cannot be figured on as other branches of wood work, but because it is a piece of work we may term tinkering, a carpenter may do part to-day and perhaps complete it weeks after. The bridging may be nailed at top of joist, but not at the bottom; the work is completed most likely by scaffolding, etc., because it cannot be nailed only from the bottom of joist. If the joist are set 12 inch on center, add 1 cent to the foregoing prices.

BOARD PARTITIONS, $\frac{7}{8}$ x 8 INCH SHIPLAP, INCLUDING FRAME WORK

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost per square.	.60	.65	.70	.75	.80	.85	.90	.95	1.00
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost per square.	.66 $\frac{2}{3}$	.72	.78	.84	.89	.95	1.00	1.05	1.11
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost per square.	.75	.81	.87	.93	1.00	1.06	1.12	1.18	1.25

BOARD PARTITION, $\frac{7}{8}$ BY 8, 10 OR 12 INCH BOARDS, INCLUDING FRAME WORK

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost per square.	.43	.46	.50	.53	.57	.60	.64	.67	.71

Continued on Page 485.

Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost per square.....	.47	.51	.55	.59	.63	.67	.71	.75	.79
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost per square.....	.53	.58	.62	.66	.71	.75	.80	.84	.89
BOARD PARTITION, $\frac{1}{8}$ x6 INCH, T. AND G., INCLUDING FRAME WORK									
Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost per square.....	1.00	1.08	1.16	1.25	1.33	1.41	1.50	1.58	1.66
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost per square.....	1.25	1.35	1.45	1.56	1.66	1.76	1.87	1.97	2.08
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost per square.....	1.50	1.62	1.75	1.87	2.00	2.12	2.25	2.37	2.50

For each story above first story, add 10 per cent.

CARPENTER WORK

CAPPING WALLS WITH 2-INCH PLANK, AREAS, ETC.—9-INCH WALLS

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.06	.06 $\frac{1}{2}$	.07	.07 $\frac{1}{2}$	.08	.08 $\frac{1}{2}$	.09	.09 $\frac{1}{2}$	.10
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.06 $\frac{1}{4}$	.07 $\frac{1}{4}$	.07 $\frac{3}{4}$	.08 $\frac{1}{4}$	.09	.09 $\frac{1}{2}$	.10 $\frac{1}{4}$	.10 $\frac{3}{4}$	.11 $\frac{1}{4}$

Continued on Page 486.

Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.07½	.08½	.08¾	.09⅞	.10	.10¾	.11¼	.11½	.12½

CAPPING WALLS WITH 2-INCH PLANK—13-INCH WALLS

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.08	.08½	.09	.09½	.10	.10½	.11	.11½	.12
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.08¾	.09¾	.09⅞	.10¾	.11	.11¾	.12½	.12¾	.13½
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.10¾	.11¾	.11⅞	.12¾	.13	.13¾	.14½	.14¾	.15½

26
The foregoing cost on capping walls includes bolts built in walls and boring holes for same, but not the cost of bolts.

CARPET SILLS OR THRESHOLDS, 3 FEET 10 INCHES OR LESS IN LENGTH, 4 INCHES WIDE,

MILLWORKED

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost each.....	.11	.12	.13	.14	.15	.16	.17	.18	.19
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost each.....	.13	.14	.15	.16	.17	.18	.19	.20	.21
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost each.....	.15	.16	.17	.18	.19	.20	.22	.23	.25

CEILING 6-INCH PINE T. AND G.

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square.....	.75	.81	.87	.93	1.00	1.06	1.12	1.18	1.25
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square.....	.83	.90	.96	1.04	1.11	1.18	1.25	1.31	1.38
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square.....	.93	1.01	1.09	1.17	1.25	1.32	1.40	1.48	1.56

CEILING 4-INCH PINE T. AND G.

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square.....	1.00	1.08	1.16	1.25	1.33	1.41	1.50	1.58	1.66
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square.....	1.11	1.20	1.29	1.38	1.48	1.57	1.66	1.75	1.85
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square.....	1.25	1.35	1.45	1.56	1.66	1.77	1.87	1.97	2.08

CARPENTER WORK

CEILING 6-INCH HARDWOOD T. AND G.

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square.....	1.00	1.08	1.16	1.25	1.33	1.41	1.50	1.58	1.66

Continued on Page 488.

Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square.....	1.12	1.20	1.30	1.40	1.50	1.59	1.68	1.77	1.87
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square.....	1.25	1.35	1.45	1.56	1.66	1.77	1.87	1.97	2.08

CEILING 4-INCH HARDWOOD T. AND G.

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square.....	1.50	1.62	1.75	1.87	2.00	2.12	2.25	2.37	2.50
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.87	\$5.00
Cost square.....	1.68	1.82	1.97	2.10	2.25	2.38	2.53	2.66	2.81
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square.....	1.87	2.03	2.19	2.34	2.50	2.65	2.81	2.96	3.12

If ceiling has to be surfaced, add cost to prices given for laying.

CEILING SURFACED, HARDWOOD, AFTER OR BEFORE IT IS NAILED UP

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square.....	3.15	3.42	3.69	3.95	4.21	4.47	4.73	5.00	5.26
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square.....	3.57	3.87	4.17	4.47	4.77	5.07	5.37	5.67	5.97
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square.....	4.00	4.33	4.66	4.99	5.33	5.66	6.00	6.33	6.66

The foregoing prices on surfacing is for oak and other similar hardwoods.

CEILING SURFACED, PINE OR SIMILAR WOOD

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square.....	1.93	2.09	2.25	2.41	2.58	2.74	2.90	3.06	3.22
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square.....	2.15	2.32	2.50	2.67	2.85	3.03	3.21	3.38	3.57
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square.....	2.40	2.60	2.80	3.00	3.20	3.40	3.60	3.80	4.00

CEILING CLEANED OR SANDPAPERED FOR VARNISH OR OIL (NOT SURFACED)

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square.....	.15	.16	.17	.18	.20	.21	.22	.23	.25
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square.....	.16	.18	.19	.20	.22	.23	.25	.26	.27
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square.....	.18	.20	.21	.23	.25	.26	.28	.29	.31

CARPENTER WORK

CENTERS FOR ARCHES, ETC., 1-INCH BOARDS CUT TO HALF CIRCLE OR SEGMENTS

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal feet of rib. ....	.05	5 5-12	5 5-6	.06¼	.06½	7 1-12	.07½	7 11-12	.08½

Continued on Page 490

Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal feet of rib.	5 5-11	.06	6 4-11	6 9-11	7 3-11	7 8-11	.08	8 5-11	.09
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal feet of rib. . . . .	.06	.06½	.07	.07½	.08	.08½	.09	.09½	.10

CENTER SHEATHING OR COVERING WITH 1-INCH LUMBER

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square foot. . . . .	.02	.02½	.02½	.02½	.02½	2 5-6	.03	.03½	.03½
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square foot.	2 2-9	2 4-9	2 5-9	2 7-9	.03	3 1-9	.03½	3 4-9	3 5-9
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square foot. . . . .	.02½	.02¾	.03	.03½	.03½	.03½	.03½	.04	.04½

For Elliptical Work, add 50 per cent to the above prices.

For Domes, charge double the above prices.

CENTERS FOR REINFORCED CONCRETE FLOORS, ETC.

Stringers, Standards or Uprights, 2-inch by 8 inches or less, including braces.

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot. . . . .	.01	1 1-12	.01½	.01½	.01½	1 5-12	.01½	1 7-12	.01½
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot. . . . .	.01½	.01½	.01½	.01½	.01½	.01½	.01½	.02½	.02½
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot. . . . .	.01¾	.01¾	.01¾	.01¾	.01¾	.01¾	.02	.02¾	.02¾

--- COVERED WITH 1 INCH BOARDS WHEN MOSTLY VERTICAL OR USED FOR SIDINGS ETC.

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square.....	1.50	1.62	1.75	1.87	2.00	2.12	2.25	2.37	2.50
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square.....	1.68	1.82	1.96	2.10	2.25	2.38	2.53	2.66	2.81
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square.....	1.87	2.03	2.18	2.34	2.50	2.65	2.81	2.96	3.12

CENTERS COVERED WITH 1-INCH BOARDS WHEN FLOORS OR CEILINGS ARE NOT CUT UP

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square.....	.60	.65	.70	.75	.80	.85	.90	.95	1.00
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square.....	.67	.73	.78	.84	.90	.95	1.01	1.06	1.12
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square.....	.75	.81	.87	.93	1.00	1.06	1.12	1.18	1.25

The above prices includes the labor removing forms.

CARPENTER WORK

CLOTHES OR CLOAK RAILS, NAILED TO WALLS IN CLOSETS, ETC.

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.02½	.02½	.02½	.02¾	.02¾	.03	.03¼	.03½	.03½

Continued on Page 492

Carpenter's wages 9 hours. \$3.00 \$3.25 \$3.50 \$3.75 \$4.00 \$4.25 \$4.50 \$4.75 \$5.00
 Cost lineal foot..... .02 $\frac{3}{4}$.02 $\frac{15}{16}$.03 $\frac{1}{8}$.03 $\frac{1}{2}$.03 $\frac{1}{2}$.03 $\frac{11}{16}$.03 $\frac{3}{4}$.04 $\frac{1}{8}$.04 $\frac{1}{4}$

Carpenter's wages 8 hours. \$3.00 \$3.25 \$3.50 \$3.75 \$4.00 \$4.25 \$4.50 \$4.75 \$5.00
 Cost lineal foot..... .03 .03 $\frac{1}{4}$.03 $\frac{1}{2}$.03 $\frac{3}{4}$.04 .04 $\frac{1}{4}$.04 $\frac{1}{2}$.04 $\frac{3}{4}$.05

CLOTHES OR CLOAK RAILS, METAL HOOKS, SCREWED IN RAILS

Carpenter's wages 10 hours \$3.00 \$3.25 \$3.50 \$3.75 \$4.00 \$4.25 \$4.50 \$4.75 \$5.00
 Cost for each hook..... .01 1 1-12 .01 $\frac{1}{2}$.01 $\frac{1}{4}$.01 $\frac{1}{2}$ 1 5-12 .01 $\frac{1}{2}$ 1 7-12 .01 $\frac{3}{4}$

Carpenter's wages 9 hours. \$3.00 \$3.25 \$3.50 \$3.75 \$4.00 \$4.25 \$4.50 \$4.75 \$5.00
 Cost for each hook..... .01 $\frac{1}{2}$.01 $\frac{3}{8}$.01 $\frac{1}{4}$.01 $\frac{1}{2}$.01 $\frac{1}{2}$.01 $\frac{1}{2}$.01 $\frac{1}{4}$.02 $\frac{1}{8}$.02 $\frac{1}{2}$

Carpenter's wages 8 hours. \$3.00 \$3.25 \$3.50 \$3.75 \$4.00 \$4.25 \$4.50 \$4.75 \$5.00
 Cost for each hook..... .01 .01 $\frac{3}{8}$.01 $\frac{1}{2}$.01 $\frac{1}{2}$.01 $\frac{1}{4}$.01 $\frac{1}{2}$.02 .02 $\frac{1}{2}$.02 $\frac{1}{4}$

COLUMNS FOR PORCHES, ETC., 9 FEET LONG, 12 INCHES OR LESS IN DIAMETER— FIRST STORY

Carpenter's wages 10 hours \$3.00 \$3.25 \$3.50 \$3.75 \$4.00 \$4.25 \$4.50 \$4.75 \$5.00
 Cost, fit and set.75 .81 .87 .93 1.00 1.06 1.12 1.18 1.25

Carpenter's wages 9 hours. \$3.00 \$3.25 \$3.50 \$3.75 \$4.00 \$4.25 \$4.50 \$4.75 \$5.00
 Cost, fit and set.87 .94 1.01 1.09 1.16 1.23 1.31 1.38 1.45

Carpenter's wages 8 hours. \$3.00 \$3.25 \$3.50 \$3.75 \$4.00 \$4.25 \$4.50 \$4.75 \$5.00
 Cost, fit and set. 1.00 1.08 1.16 1.25 1.33 1.41 1.50 1.58 1.66

4-INCH FASCIA

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot, 3 members.	.07	.08 $\frac{1}{8}$	.08 $\frac{3}{4}$	.09 $\frac{3}{8}$	.10	.10 $\frac{5}{8}$	.11 $\frac{1}{4}$	.11 $\frac{7}{8}$	.12 $\frac{1}{2}$
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot, 3 members.	8 4-7	9 2-7	.10	10 5-7	11 3-7	12 1-7	12 6-7	13 4-7	14 2-7
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot, 3 members.	.10	10 5-6	.11 $\frac{1}{8}$	.12 $\frac{1}{2}$	.13 $\frac{1}{8}$	.14 $\frac{1}{8}$	.15	15 5-6	.16 $\frac{3}{8}$

THREE MEMBERS—CORNICES, GABLE ROOFS, 10-INCH FRIEZE, 12-INCH SOFFIT, 4-INCH

FASCIA

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot, 3 members.	8 4-7	9 2-7	.10	10 5-7	11 3-7	12 1-7	12 6-7	13 4-7	14 2-7
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot, 3 members.	.09 $\frac{3}{8}$	.10 $\frac{1}{8}$	.10 $\frac{5}{8}$	.11 $\frac{1}{4}$	.12 $\frac{1}{2}$	.13 $\frac{1}{4}$	.14 $\frac{1}{8}$	.14 $\frac{5}{8}$	.15 $\frac{5}{8}$
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot, 3 members.	10 5-7	11 4-7	.12 $\frac{1}{2}$	13 3-7	14 2-7	15 1-7	.16	.17	17 6-7

CARPENTER WORK

THREE MEMBERS—CORNICES, GABLE ROOFS, 18-INCH FRIEZE, 16-INCH SOFFIT, 4-INCH

FASCIA

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot, 3 members.	.10	10 5-6	.11 $\frac{1}{2}$	.12 $\frac{1}{2}$	.13 $\frac{1}{2}$	.14 $\frac{1}{2}$	.15	15 5-6	.16 $\frac{3}{4}$
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot, 3 members.	.11 $\frac{1}{2}$	.12	.12 $\frac{1}{2}$	.13 $\frac{1}{2}$	.14 $\frac{1}{2}$	.15 $\frac{1}{2}$	.16 $\frac{1}{2}$	.17 $\frac{1}{2}$	.18 $\frac{1}{2}$
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot, 3 members.	.12 $\frac{1}{2}$	.13 $\frac{1}{2}$	.14 $\frac{1}{2}$	.15 $\frac{1}{2}$	.16 $\frac{1}{2}$	.17 $\frac{1}{2}$	.18 $\frac{1}{2}$	.19 $\frac{1}{2}$	.20 $\frac{1}{2}$

THREE MEMBERS—CORNICES, HIP ROOFS, 12-INCH FRIEZE, 16-INCH SOFFIT, 4-INCH FASCIA

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot, 3 members.	8 4-7	9 2-7	.10	10 5-7	11 3-7	12 1-7	12 6-7	13 4-7	14 2-7
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot, 3 members.	.09 $\frac{1}{2}$	.10 $\frac{1}{2}$	.10 $\frac{1}{2}$	.11 $\frac{1}{2}$	.12 $\frac{1}{2}$	.13 $\frac{1}{2}$	.14 $\frac{1}{2}$	.14 $\frac{3}{4}$	.15 $\frac{1}{2}$
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot, 3 members.	10 5-7	11 4-7	.12 $\frac{1}{2}$	13 3-7	14 2-7	15 1-7	.16	.17	17 6-7

THREE MEMBERS—CORNICES, HIP ROOFS, 22-INCH FRIEZE, 20-INCH SOFFIT, 4½-INCH

FASCIA

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot, 3 members.	.10	10 5-6	.11¾	.12½	.13½	.14½	.15	15 5-6	.16¾
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.5	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot, 3 members.	.11½	.12	.12¾	.13¾	.14¾	.15¾	.16¾	.17¾	.18½
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot, 3 members.	.12½	.13½	.14½	.15½	.16½	.17½	.18½	.19½	.20½

THREE MEMBERS—CORNICES, HIP ROOFS, 28-INCH FRIEZE, 24-INCH SOFFIT, 5-INCH FASCIA

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot, 3 members.	.12	.13	.14	.15	.16	.17	.18	.19	.20
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot, 3 members.	.13½	.14½	.15¾	.16¾	.18	.19¾	.20¾	.21¾	.22½
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot, 3 members.	.15	.16½	.17½	.18¾	.20	.21¾	.22½	.23¾	.25

THREE MEMBERS—CORNICES, HIP ROOFS, 32-INCH FRIEZE, 28-INCH SOFFITS, 50, INCH

FASCIA

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot, 3 members.	.15	.16 $\frac{1}{4}$	.17 $\frac{1}{2}$	.18 $\frac{3}{4}$	.20	.21 $\frac{1}{4}$	.22 $\frac{1}{2}$	.23 $\frac{3}{4}$	.25
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot, 3 members.	.16 $\frac{2}{3}$	18 1-18	19 4-9	20 5-6	22 2-9	.23 $\frac{3}{8}$	.25	26 7-18	27-7-9
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot, 3 members.	.18 $\frac{3}{4}$	.20 $\frac{5}{8}$	.21 $\frac{1}{4}$	.23 $\frac{7}{8}$	.25	.26 $\frac{5}{8}$	.28 $\frac{1}{4}$	.29 $\frac{5}{8}$	.31 $\frac{1}{4}$

The cost of labor putting up cornices allows carpenters to work in pairs.

CARPENTER WORK

CORNICE MOULDINGS—CROWN 2-INCH FLAT, NAILED ON FASCIA

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost 100 lineal feet.....	.75	.81	.87	.93	1.00	1.06	1.12	1.18	1.25
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost 100 lineal feet.....	.84	.91	.98	1.05	1.12	1.19	1.26	1.32	1.40
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost 100 lineal feet.....	.93	1.01	1.09	1.17	1.25	1.32	1.40	1.48	1.56

CORNICE MOULDINGS—SPRING 4-INCH, NAILED ON FASCIA

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost 100 lineal feet.....	1.20	1.30	1.40	1.50	1.60	1.70	1.80	1.90	2.00
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost 100 lineal feet.....	1.35	1.46	1.57	1.68	1.80	1.91	2.02	2.13	2.25
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost 100 lineal feet.....	1.50	1.62	1.75	1.87	2.00	2.12	2.25	2.37	2.50

CORNICE MOULDINGS, SPRING 5 INCHES, NAILED ON FASCIA

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost 100 lineal feet.....	1.35	1.46	1.57	1.68	1.80	1.91	2.02	2.13	2.25
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost 100 lineal feet.....	1.50	1.63	1.75	1.88	2.01	2.13	2.26	2.38	2.51
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost 100 lineal feet.....	1.66	1.80	1.94	2.08	2.22	2.36	2.50	2.63	2.77

CORNICE MOULDINGS, SPRING 6 INCHES, NAILED ON FASCIA

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost 100 lineal feet.....	1.62	1.75	1.89	2.02	2.16	2.30	2.43	2.56	2.70

Continued on Page 498

Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost 100 lineal feet.....	1.82	1.97	2.12	2.27	2.43	2.58	2.73	2.88	3.04
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost 100 lineal feet.....	2.02	2.19	2.36	2.53	2.70	2.87	3.04	3.21	3.38

CORNICE MOULDINGS, SPRING 8 INCHES, NAILED ON FASCIA

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost 100 lineal feet.....	2.40	2.60	2.80	3.00	3.20	3.40	3.60	3.80	4.00
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost 100 lineal feet.....	2.70	2.92	3.15	3.37	3.60	3.82	4.05	4.27	4.50
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost 100 lineal feet.....	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00

The cost of labor putting on mouldings, allows carpenters to work in pairs.

M

CARPENTER WORK

CORNICE MOULDINGS, BED MOULDING FLAT 1½-INCH NAILED TO FRIEZE AND SOFFIT

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost 100 lineal feet.....	.75	.81	.87	.93	1.00	1.06	1.12	1.18	1.25

Continued on Page 499

Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost 100 lineal feet.....	.93	1.01	1.09	1.17	1.25	1.32	1.40	1.48	1.56
CORNICE MOULDING, BED MOULDING FLAT 3 INCHES, NAILED TO FRIEZE AND SOFFIT									
Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost 100 lineal feet.....	.85	.92	1.00	1.07	1.14	1.21	1.28	1.35	1.42
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost 100 lineal feet.....	.96	1.04	1.12	1.20	1.28	1.36	1.46	1.52	1.60
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost 100 lineal feet.....	1.07	1.16	1.25	1.33	1.42	1.51	1.64	1.69	1.78

The cost of labor putting on mouldings, allows carpenters to work in pairs.

DOOR FRAME SETTING IN FRAME BUILDINGS, ORDINARY SIZE ABOUT 2-10x6-10

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost set frame.....	.18½	.20	.21½	.23	.24½	.26	.27½	.29	.30½
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost set frame.....	.21¾	.23¼	.25¼	.27	.28¾	.30½	.32¼	.34	.35¾
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost set frame.....	.25	.27	.29	.31	.33	.35	.37	.39	.41

DOOR FRAME SETTING WOOD SILLS IN BRICK BUILDINGS, ABOUT 2-10x6-10

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost set frame.....	.25	.27	.29	.31	.33	.35	.37	.39	.41
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost set frame.....	.27 $\frac{3}{4}$	.30	.32 $\frac{1}{4}$	.34 $\frac{1}{2}$	.36 $\frac{3}{4}$	.39	.41 $\frac{1}{4}$	.43 $\frac{1}{2}$	.45 $\frac{3}{4}$
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost set frame.....	.30 $\frac{1}{2}$	.33	.35 $\frac{1}{2}$	.38	.40 $\frac{1}{2}$	.43	.45 $\frac{1}{2}$	.48	.50 $\frac{1}{2}$

DOOR FRAME SETTING ON STONE SILLS IN BRICK BUILDINGS ABOUT 2-10x6-10

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost set frame.....	.21 $\frac{5}{8}$	.23 $\frac{1}{4}$	.24 $\frac{1}{8}$	.26 $\frac{1}{2}$	.28 $\frac{1}{8}$	.29 $\frac{3}{4}$	.3 $\frac{3}{8}$	.33	.34 $\frac{5}{8}$
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost set frame.....	.24 $\frac{1}{2}$	.26 $\frac{3}{8}$	.28 $\frac{5}{8}$	.30 $\frac{1}{4}$	.32 $\frac{3}{8}$	.34 $\frac{3}{8}$	.36 $\frac{1}{8}$	.38 $\frac{1}{8}$	.40
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost set frame.....	.27 $\frac{1}{8}$	.29 $\frac{3}{8}$	.31 $\frac{1}{4}$	.34	.36 $\frac{3}{8}$	.38 $\frac{5}{8}$	.40 $\frac{3}{8}$	.43 $\frac{3}{8}$	.45 $\frac{3}{8}$

The above prices do not include setting stone sills, see Stone Setting.

For each story above first, add to the above prices, 15 per cent.

For frames girthing over 20 feet, add 1 cent for each foot in girth to the above price.

CARPENTER WORK

DOOR AND WINDOW CASINGS, ONE OR TWO SIDES, PLAIN, 5-INCH SOFT WOOD

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.03	.03 $\frac{1}{4}$	.03 $\frac{1}{2}$	.03 $\frac{3}{4}$	.04	.04 $\frac{1}{2}$	.04 $\frac{3}{4}$	.04 $\frac{1}{2}$	.05
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.03 $\frac{3}{4}$	.03 $\frac{3}{4}$	.03 $\frac{3}{4}$	.04 $\frac{1}{8}$	.04 $\frac{1}{8}$	.04 $\frac{1}{8}$	.05 $\frac{1}{8}$	.05 $\frac{1}{8}$	.05 $\frac{1}{2}$
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.03 $\frac{3}{4}$	.04 $\frac{1}{8}$	.04 $\frac{3}{8}$	.04 $\frac{3}{8}$	.05	.05 $\frac{1}{8}$	.05 $\frac{1}{8}$	.05 $\frac{1}{8}$	.06 $\frac{1}{4}$

51 DOOR AND WINDOW CASINGS, PLAIN, 5 INCHES WITH SMALL MOULDING NAILED ON SOFT

WOOD, ONE OR TWO SIDES

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.05	5 5-12	5 5-6	.06 $\frac{1}{4}$	.06 $\frac{3}{8}$	7 1-12	.07 $\frac{1}{8}$	7 11-12	.08 $\frac{1}{2}$
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.05 $\frac{1}{2}$	.06	.06 $\frac{1}{2}$	.07 $\frac{1}{8}$	.07 $\frac{1}{8}$	.07 $\frac{1}{4}$	.08 $\frac{1}{8}$	.08 $\frac{1}{8}$	.09 $\frac{1}{4}$
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.06 $\frac{3}{8}$	.06 $\frac{3}{8}$	.07 $\frac{1}{8}$	.07 $\frac{1}{8}$	.08 $\frac{1}{8}$	.08 $\frac{1}{8}$	.09 $\frac{1}{8}$	.09 $\frac{1}{8}$	.10 $\frac{1}{8}$

If the casings are hardwood, oak, etc., add to the above prices, one-third.

DOOR AND WINDOW JAMBS, 6 INCHES WIDE OR LESS, SOFT WOOD

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.01½	.01½	.01¾	.01¾	.02	.02½	.02¼	.02¾	.02½
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.01¾	.01¾	.01¾	.02½	.02¼	.02¾	.02½	.02¾	.02¾
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.01¾	.02½	.02½	.02¾	.02½	.02¾	.02¾	.02¾	.03½

If the jambs are hardwood, add to the above prices, one-third.

INSIDE SILLS AND APRONS, ORDINARY SIZE, SOFT WOOD

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.05	5 5-12	5 5-6	.06¼	.06¾	7 1-12	.07½	7 11-12	.08½
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.05¾	.06	.06½	.07½	.07¾	.07¾	.08¾	.08¾	.09½
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.06¾	.06¾	.07¾	.07¾	.08¾	.08W	.09¾	.09¾	.10¾

If material is hardwood, add to the above prices one-third.

CARPENTER WORK

DOOR FITTINGS AND HANGING, ORDINARY SIZES 1½ BY 3 FEET BY 7 FEET, SOFT WOOD

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, door.....	.60	.65	.70	.75	.80	.85	.90	.95	1.00
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, door.....	.67	.73	.78	.84	.90	.96	1.01	1.06	1.12
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, door.....	.75	.81	.87	.93	1.00	1.06	1.12	1.18	1.25

If hardwood, add one-third to the above prices.

DOOR FITTINGS AND HANGING, SIZES 3 FEET BY 8 OR 9 FEET IN HEIGHT, 1¼ THICK, SOFT

WOOD

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, door.....	.75	.81	.87	.93	1.00	1.06	1.12	1.18	1.25
Carpenter's wages 9 hour.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, door.....	.87	.94	1.01	1.09	1.16	1.23	1.31	1.38	1.45
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, door.....	1.00	1.08	1.16	1.25	1.33	1.41	1.50	1.58	1.66

If hardwood, add one-third to the above prices. The above prices includes putting on locks without plated fronts.

MORTISE LOCKS 6 INCHES AND OVER WITH PLATED FRONTS AND FITTINGS

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost per lock.....	.60	.65	.70	.75	.80	.85	.90	.95	1.00
Carpenter's wages 9 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost per lock.....	.67	.73	.78	.84	.90	.96	1.01	1.06	1.12
Carpenter's wages 8 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost per lock.....	.75	.81	.87	.93	1.00	1.06	1.12	1.18	1.25

APPROXIMATE COST SETTING A PAIR OF SLIDING DOORS, INCLUDING TRACKS AND HARD-

WARE, SOFT WOOD

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, pair doors.....	3.60	3.90	4.20	4.50	4.80	5.10	5.40	5.70	6.00
Carpenter's wages 9 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, pair doors.....	4.00	4.33	4.66	5.99	5.33	5.66	6.00	6.33	6.66
Carpenter's wages 8 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, pair doors.....	4.50	4.87	5.25	5.62	6.00	6.37	6.75	7.12	7.50

The above prices do not include frames, pockets or casings.

If doors are hardwood, add one-third to the above prices.

CARPENTER WORK

DOORS, FLUSH BOLTS, TOP AND BOTTOM, WTH CHAINS AND PLATES

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost per pair.....	.20	.21	.23	.25	.26	.28	.30	.31	.33
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost per pair.....	.22	.24	.26	.28	.30	.32	.34	.36	.38
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost per pair.....	.25	.27	.29	.31	.33	.35	.37	.39	.41

WINDOW FRAME SETTING, WOOD BUILDINGS, ORDINARY SIZES

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, set frame.....	.18½	.20	.21½	.23	.24½	.26	.27½	.29	.30½
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.2	\$4.50	\$4.75	\$5.00
Cost, set frame.....	.21¾	.23½	.25¼	.27	.28¾	.30½	.32¼	.34	.35¾
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, set frame.....	.25	.27	.29	.31	.33	.35	.37	.39	.41

WINDOW FRAME SETTING ON STONE SILLS, BRICK BUILDINGS

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, set frame.....	.25	.27	.29	.31	.33	.35	.37	.39	.41

Continued on Page 506

Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.2	\$4.50	\$4.75	\$5.00
Cost, set frame.....	.27½	.29¾	.32	.34¼	.36½	.38¾	.41	.43¼	.45½
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, set frame.....	.30	.32½	.35	.37½	.40	.42½	.45	.47½	.50

WINDOW FRAME SETTING ON LUG SILLS, FRAMES CUT TO FIT

Carpenter's wages 10 hours	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, set frame.....	.33¼	.36	.38¾	.41½	.44¼	.47	.49¾	.52½
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75
Cost, set frame.....	.37	.40	.43	.46	.49	.52	.55	.58
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75
Cost, set frame.....	.42	.46	.50	.53	.57	.60	.64	.68

Add to the above prices, 10 per cent for each story above first story.

CARPENTER WORK

FENCE BOARDS 1 INCH BY 10 AND 12 INCHES IN WIDTH

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.42½	.46	.49½	.53	.56½	.60	.63½	.67	.70½

Continued on Page 507

Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.47 $\frac{3}{4}$	.51 $\frac{3}{4}$	5.55 $\frac{3}{4}$	.59 $\frac{3}{4}$	.63 $\frac{3}{4}$	.67 $\frac{3}{4}$	.71 $\frac{3}{4}$	.75 $\frac{3}{4}$	.79 $\frac{3}{4}$
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.53	.57 $\frac{1}{2}$	.62	.66 $\frac{1}{2}$	.71	.75 $\frac{1}{2}$	.80	.84 $\frac{1}{2}$	.89

FENCE POST SETTING, 2 TO 2 FEET 6 INCHES IN GROUND, SANDY OR LOAM SOIL

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, set post.....	.12	.13	.14	.15	.16	.17	.18	.19	.20
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, set post.....	.13 $\frac{1}{2}$	.14 $\frac{1}{2}$	.15 $\frac{1}{2}$	.16 $\frac{1}{2}$	.17 $\frac{1}{2}$	.18 $\frac{1}{2}$	.19 $\frac{1}{2}$	.20 $\frac{1}{2}$	.21 $\frac{1}{2}$
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, set post.....	.15	.16	.17	.18	.20	.21	.22	.23	.25

The prices given setting posts are approximately. If there are a great number of posts to set, common labor should be employed to dig and fill around posts. The above prices are for carpenters to dig and set posts of small work. If common labor does the work, figure according, say the wages are \$1.50 for 10 hours; figure one-half of \$3.00 which would show cost of 6 cents to set on posts.

FLOORING SUB, COMMON BOARDS, LAID ON JOIST UNDER FINISHED FLOORING

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.37	.40	.43	.46	.50	.53	.56	.59	.62
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.42	.45	.48	.52	.56	.59	.63	.66	.70
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.47	.50	.54	.58	.62	.66	.70	.74	.78

If boards are laid diagonally, add 15 per cent to the above cost.

FLOORING, YELLOW PINE, 3¼-INCH FACE, LAID ON SUB-FLOORING, INCLUDING THE LAY- ING OF PAPER BETWEEN THE SHEATHING AND THE FINISHED FLOORING,

-ROUGH JOINTS SMOOTHED OFF

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.20	1.30	1.40	1.50	1.60	1.70	1.80	1.90	2.00
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.35	1.46	1.57	1.68	1.80	1.91	2.02	2.13	2.25
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.50	1.62	1.75	1.87	2.00	2.12	2.25	2.37	2.50

FLOORING, YELLOW PINE, 3¼-INCH FACE, LAID DIRECT ON JOIST, ROUGH JOINTS

SMOOTHED

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.75	.81	.87	.93	1.00	1.06	1.12	1.18	1.25
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.87	.94	1.01	1.09	1.16	1.23	1.31	1.38	1.45
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.00	1.08	1.16	1.25	1.33	1.41	1.50	1.58	1.66

509

FLOORING, YELLOW PINE, 3¼-INCH FACE, INCLUDING SMOOTHING AND SANDPAPERING

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.37	1.49	1.60	1.72	1.83	1.94	2.06	2.17	2.28
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.54	1.67	1.80	1.93	2.05	2.18	2.45	2.58	2.71
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.71	1.85	2.00	2.14	2.28	2.42	2.45	2.57	2.71

FLOORING SUB, COMMON BOARDS, LAID ON JOIST UNDER FINISHED FLOORING

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.37	.40	.43	.46	.50	.53	.56	.59	.62
Carpenter's wages 9 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.42	.45	.48	.52	.56	.59	.63	.66	.70
Carpenter's wages 8 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.47	.50	.54	.58	.62	.66	.70	.74	.78

If boards are laid diagonally, add 15 per cent to the above cost.

FLOORING, YELLOW PINE, 3¼-INCH FACE, LAID ON SUB-FLOORING, INCLUDING THE LAY-

ING OF PAPER BETWEEN THE SHEATHING AND THE FINISHED FLOORING,

ROUGH JOINTS SMOOTHED OFF

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.20	1.30	1.40	1.50	1.60	1.70	1.80	1.90	2.00
Carpenter's wages 9 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.35	1.46	1.57	1.68	1.80	1.91	2.02	2.13	2.25
Carpenter's wages 8 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.50	1.62	1.75	1.87	2.00	2.12	2.25	2.37	2.50

FLOORING, YELLOW PINE, 3¼-INCH FACE, LAID DIRECT ON JOIST, ROUGH JOINTS

SMOOTHED

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.75	.81	.87	.93	1.00	1.06	1.12	1.18	1.25
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.87	.94	1.01	1.09	1.16	1.23	1.31	1.38	1.45
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.00	1.08	1.16	1.25	1.33	1.41	1.50	1.58	1.66

509

FLOORING, YELLOW PINE, 3¼-INCH FACE, INCLUDING SMOOTHING AND SANDPAPERING

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.37	1.49	1.60	1.72	1.83	1.94	2.06	2.17	2.28
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.54	1.67	1.80	1.93	2.05	2.18	2.45	2.58	2.71
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.71	1.85	2.00	2.14	2.28	2.42	2.45	2.57	2.71

FLOORING, YELLOW PINE $\frac{1}{8}$ x $5\frac{1}{4}$ T. & G. FACE, 2 INCHES THICK, FOR WARE AND

FACTORY BUILDINGS

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.00	1.08	1.16	1.25	1.33	1.41	1.50	1.58	1.66
Carpenter's wages 9 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.12	1.21	1.30	1.41	1.49	1.59	1.68	1.77	1.87
Carpenter's wages 8 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square.....	1.25	1.35	1.45	1.56	1.66	1.77	1.87	1.97	2.08

FLOORING, YELLOW PINE, $\frac{1}{8}$ BY $5\frac{1}{4}$ -INCH FACE, LAID ON BARE JOIST, NOT SMOOTHED

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.60	.65	.70	.75	.80	.85	.90	.95	1.00
Carpenter's wages 9 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.67	.73	.78	.84	.90	.95	1.01	1.06	1.12
Carpenter's wages 8 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.75	.81	.87	.93	1.00	1.06	1.12	1.18	1.25

FLOORING, YELLOW PINE, 1/4 BY 5 1/4-INCH FACE, LAID ON SUB-FLOOR

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.75	.81	.87	.93	1.00	1.06	1.12	1.18	1.25
Carpenter's wages 9 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.87	.94	1.01	1.09	1.16	1.23	1.31	1.38	1.45
Carpenter's wages 8 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.00	1.08	1.16	1.25	1.33	1.41	1.50	1.58	1.66

FLOORING, MAPLE, 2 1/4-INCH FACE, LARGE WAREHOUSES, ETC., NOT SMOOTHED

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.75	.81	.87	.93	1.00	1.06	1.12	1.18	1.25
Carpenter's wages 9 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.84	.91	.98	1.05	1.12	1.19	1.26	1.32	1.40
Carpenter's wages 8 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.93	1.01	1.09	1.17	1.25	1.33	1.40	1.47	1.56

CARPENTER WORK

FLOORING, MAPLE, 2 1/4-INCH FACE, LAID IN SMALL ROOMS, NOT SMOOTHED

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.20	1.30	1.40	1.50	1.60	1.70	1.80	1.90	2.00

Continued on Page 512

Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.35	1.46	1.57	1.68	1.80	1.91	2.02	2.13	2.25
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.50	1.62	1.75	1.87	2.00	2.12	2.25	2.37	2.50

FLOORING, MAPLE, 2¼-INCH FACE, LAID AND SURFACED, SMALL ROOMS

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	2.40	2.60	2.80	3.00	3.20	3.40	3.60	3.80	4.00
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	2.70	2.92	3.15	3.37	3.60	3.82	4.05	4.27	4.50
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00

FLOORING, OAK, LAID, SURFACED OR SMOOTHED, SANDPAPERED TO FINE FINISH

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	4.83	5.24	5.64	6.05	6.45	6.85	7.25	7.66	8.06
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	5.40	5.87	6.32	6.77	7.22	7.67	8.12	8.58	9.03
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	6.00	6.50	7.00	7.50	8.00	8.50	9.00	9.50	10.00

If flooring is glued, add to the above prices, 50 per cent.

JOIST CAMBERED AND BROUGHT TO WIDTH LEVEL ON WALLS, 2x12 INCHES

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.01	1 1-12	.01½	.01¾	.01½	1 5-12	.01½	1 7-12	.01¾
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.01½	.01¾	.01½	.01¾	.01½	.01¾	.01½	.01¾	.01½
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.01¾	.01½	.01¾	.01½	.01¾	.01½	.01¾	.02	.02½

JOIST CAMBERED AND BROUGHT TO WIDTH LEVEL ON WALLS, 2x12 INCHES

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	1 1-5	1 3-10	1 2-5	.01½	1 3-5	1 7-10	1 4-5	1 9-10	.02
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.01½	1 4-9	1 5-9	.01¾	1 7-9	1 8-9	.02	2 1-9	2 2-9
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.01¾	.01½	.01¾	.01½	.02	.02½	.02¾	.02½	.02¾

For each foot above second floor, add 2 per cent for each foot rise on stud and joist.

CARPENTER WORK

JOIST CAMBERED AND BROUGHT TO WIDTH LEVEL ON WALLS, 3x12 INCHES

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.02	.02½	.02¾	.02½	.02¾	2 5-6	.03	.03½	.03¾

Continued on Page 514

Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.02 1/8	.02 1/4	.02 3/8	2 7-9	2 26-27	3 4-7	.03 1/8	3 14-27	3 19-27
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.02 1/2	2 17-24	2 11-12	.03 1/8	.03 1/8	3 13-24	.03 3/4	3 23-24	04 1/8

CARPENTER WORK

JOIST CAMBERED AND BROUGHT TO WIDTH LEVEL ON WALLS, 2x14 INCHES

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.01 7/8	.01 1/2	.01 5/8	.01 3/4	.01 7/8	.02	.02 1/8	.02 1/4	.02 3/8
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.01 9/8	.01 5/8	.01 3/4	.01 7/8	.02 1/8	.02 3/8	.02 1/2	.02 3/4	.02 7/8
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.01 3/4	.01 7/8	.02 W	.02 1/8	.02 3/8	.02 1/2	.02 5/8	.02 3/4	.02 7/8

JOIST 2x6 OR 2x8 RAFTERS

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.01	1 1-12	.01 1/8	.01 1/4	.01 3/8	1 5-12	.01 1/2	1 7-12	.01 3/4
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.01 1/8	.01 3/8	.01 5/8	.01 3/4	.01 7/8	.01 7/8	.01 7/8	.01 3/4	.01 1/2
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.01 1/4	.01 3/4	.01 3/4	.01 3/4	.01 3/4	.01 3/4	.01 3/4	.02	.02 1/8

STUD PARTITIONS 2x6 INCHES, INCLUDING THE PLATES AND BRIDGING

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot (mills).....	0.8-10	0.8 $\frac{3}{4}$	.09 $\frac{1}{2}$	.01	1 1-5	1 2-15	1 1-5	1 4-15	1 $\frac{1}{2}$
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot (mills).....	0.9-10	1	1 $\frac{1}{2}$	1 $\frac{3}{4}$	1 $\frac{3}{4}$	1 $\frac{3}{4}$	1 $\frac{5}{8}$	1 $\frac{3}{8}$	1 $\frac{1}{2}$
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot (cts.).....	.01	1 1-12	.01 $\frac{1}{2}$	.01 $\frac{1}{4}$	.01 $\frac{1}{2}$	1 5-12	.01 $\frac{1}{2}$	1 7-12	.01 $\frac{3}{8}$

STUD PARTITIONS 2x4 INCHES, INCLUDING THE PLATES AND BRIDGING

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot (mills).....	0.7-10	0.7-10	0.8-10	0.8-10	0.9-10	0.9-10	1 1-28	1 1-11	1 1-7
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot (mills).....	0.7-10	0.8-10	0.8-10	0.9-10	1 1-49	1 7-78	1 2-13	1 17-18	1 27-98
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot (mills).....	0.8-10	0.9-10	1	1 1-14	1 1-7	1 3-14	1 2-7	1 5-14	1 3-7

The prices given on joist and studding allows carpenters to work in pairs.

CARPENTER WORK

FRAMING AND PLACING HEAVY TIMBERS, GIRDERS, POSTS, ETC., 8x8 INCHES

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot .....	.03 $\frac{1}{4}$	.04 $\frac{1}{2}$	.04 $\frac{3}{4}$	.04 $\frac{3}{4}$	.05	.05 $\frac{1}{2}$	.05 $\frac{1}{2}$	.05 $\frac{1}{2}$	.06 $\frac{1}{4}$

Continued on Page 516

Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot (cts.).....	.04 $\frac{1}{2}$	4 37-42	4 31-36	5 5-24	5 5-9	5 65-72	.06 $\frac{1}{4}$	6 43-72	6 17-18
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	4 8-13	.05	5 5-13	5 10-13	6 2-13	6 7-13	6 12-13	7 4-13	7 9-13

TIMBERS 8 INCHES BY 10 INCHES IN PLACE

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.04 $\frac{3}{4}$	.05 $\frac{1}{4}$	.05 $\frac{3}{8}$	.05 $\frac{1}{2}$	.06	.06 $\frac{1}{4}$	.06 $\frac{1}{2}$	.06 $\frac{3}{4}$	.07 $\frac{1}{4}$
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.05 $\frac{1}{2}$	5 37-42	5 31-36	6 5-24	6 5-9	6 65-72	.07 $\frac{1}{4}$	7 43-72	7 17-18
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	5 8-13	.06	6 5-13	6 10-13	7 2-13	7 7-13	7 12-13	8 4-13	8 9-13

TIMBERS 8 INCHES BY 12 INCHES IN PLACE

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.6 $\frac{1}{4}$	.06 $\frac{1}{4}$	.06 $\frac{1}{2}$	.06 $\frac{3}{4}$	.07	.07 $\frac{1}{4}$	.07 $\frac{1}{2}$	.07 $\frac{3}{4}$	.08 $\frac{1}{4}$
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.06 $\frac{1}{2}$	6 37-42	6 31-36	7 5-24	7 5-9	7 65-72	.08 $\frac{1}{4}$	8 43-72	8 17-18
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	6 8-13	.07	7 5-13	7 10-13	8 2-13	8 7-13	8 12-13	9 4-13	9 9-13

TIMBERS 8 INCHES BY 14 INCHES IN PLACE

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.06¼	.07¼	.07½	.07¾	.08	.08½	.08¾	.09	.09¼
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.07¼	.07¾	.08	.08½	.08¾	.09	.09¼	.09½	.09¾
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.07¼	.07¾	.08	.08½	.08¾	.09	.09¼	.09½	.09¾
Carpenter's wages 7 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.07¼	.07¾	.08	.08½	.08¾	.09	.09¼	.09½	.09¾

TIMBERS 8 INCHES BY 16 INCHES IN PLACE

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.07¼	.08¼	.08½	.08¾	.09	.09½	.09¾	.10	.10¼
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.08¼	.08¾	.09	.09½	.09¾	.10	.10¼	.10½	.10¾
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.08¼	.08¾	.09	.09½	.09¾	.10	.10¼	.10½	.10¾
Carpenter's wages 7 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot.....	.08¼	.08¾	.09	.09½	.09¾	.10	.10¼	.10½	.10¾

For timbers thicker than 8 inches, add 12 per cent to the above prices for each inch in thickness.

The prices given on timbers, allows carpenters to work in pairs.

CARPENTER WORK

SHEATHING ROOFS (OPEN), 1x6 INCHES OR LESS, FOR WOOD SHINGLES

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square.....	.25	.27	.29	.31	.33	.35	.37	.39	.41
Carpenter's wages 9 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.25	.30	.32	.35	.37	.39	.41	.44	.46
Carpenter's wages 8 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost square.....	.31	.33	.36	.39	.41	.44	.46	.49	.52

SHEATHING ROOFS FOR GRAVEL, TIN, ETC., FLAT ROOFS, 8-INCH SHIPLAP

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.50	.54	.58	.62	.66	.70	.75	.79	.83
Carpenter's wages 9 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.55	.60	.65	.70	.75	.80	.85	.90	.95
Carpenter's wages 8 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.62	.67	.72	.78	.83	.88	.93	.98	1.04

SHEATHING HIP ROOFS 8-INCH SHIPLAP

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.60	.65	.70	.75	.80	.85	.90	.95	1.00
Carpenter's wages 9 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.67	.73	.78	.84	.90	.95	1.01	1.06	1.12

Continued on Page 519

Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.75	.81	.87	.93	1.00	1.06	1.12	1.18	1.25

For each foot more than 15 feet from ground, add to the above prices, 2 per cent.

The prices given on Sheathing Roofs, allows carpenters to work in pairs.

SHINGLING PLAIN ROOFS (LAID 4½ INCHES TO THE WEATHER)

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.00	1.08	1.16	1.25	1.33	1.41	1.50	1.58	1.66
Cost, 1,000	1.25	1.35	1.45	1.56	1.66	1.77	1.87	1.97	2.08
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.12	1.20	1.29	1.39	1.49	1.59	1.67	1.76	1.86
Cost, 1,000.....	1.40	1.52	1.61	1.75	1.87	1.99	2.10	2.22	2.34
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.25	1.35	1.45	1.56	1.66	1.77	1.87	1.97	2.08
Cost, 1,000.....	1.56	1.69	1.77	1.95	2.08	2.21	2.34	2.47	2.60

CARPENTER WORK

SHINGLING HIP ROOFS (LAID 4½ INCHES TO THE WEATHER)

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.20	1.30	1.40	1.50	1.60	1.70	1.80	1.90	2.00
Cost, 1,000.....	1.50	1.62	1.75	1.87	2.00	2.12	2.25	2.37	2.50

Continued on Page 520

Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.35	1.46	1.57	1.68	1.80	1.91	2.02	2.13	2.25
Cost, 1,000.....	1.68	1.82	1.93	2.10	2.25	2.38	2.53	2.66	2.81
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.50	1.62	1.75	1.87	2.00	2.12	2.25	2.37	2.50
Cost, 1,000....	1.87	2.03	2.18	2.34	2.50	2.65	2.81	2.96	3.12

SHINGLING PLAIN ROOFS (LAID 5 INCHES TO THE WEATHER)

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.90	.97	1.05	1.12	1.20	1.27	1.35	1.42	1.50
Cost, 1,000.....	1.25	1.35	1.45	1.56	1.66	1.77	1.87	1.97	2.08
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.01	1.09	1.18	1.26	1.35	1.43	1.52	1.60	1.65
Cost, 1,000.....	1.40	1.52	1.61	1.75	1.87	1.99	2.10	2.22	2.34
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.12	1.22	1.31	1.40	1.50	1.59	1.69	1.78	1.81
Cost, 1,000.....	1.56	1.69	1.77	1.95	2.08	2.21	2.34	2.47	2.60

SHINGLING HIP ROOFS (LAID 5 INCHES TO THE WEATHER)

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.08	1.17	1.26	1.35	1.44	1.53	1.62	1.71	1.80
Cost, 1,000.....	1.50	1.62	1.75	1.87	2.00	2.12	2.25	2.37	2.50

Continued on Page 521

Cost, square.....	1.41	1.32	1.24	1.16	1.08	1.00	1.12	1.24	1.36	1.48
Cost, 1,000.....	1.68	1.82	1.93	2.10	2.25	2.38	2.53	2.66	2.81	2.93
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00	
Cost, square.....	1.35	1.47	1.58	1.69	1.81	1.92	2.03	2.14	2.26	
Cost, 1,000.....	1.87	2.03	2.18	2.34	2.50	2.65	2.81	2.96	3.12	

Number of shingles required for a roof. Rule—Multiply the length of the ridge or the length of roof including the projections of shingles, then twice the length one rafter and, if the shingles are to be laid $4\frac{1}{2}$ inches to the weather, multiply by 8 and if exposed 5 inches to the weather, multiply by 7 1-5. If $5\frac{1}{2}$ inches to the weather, multiply by 6 11-20; if 6 inches to the weather, multiply by 6. There are 250 shingles per bundle. When laid 5 inches to the weather, 5 pounds 4 penny or $3\frac{3}{4}$ pounds 3 penny nails will lay 1,000 shingles.

CARPENTER WORK

SASH, FITTING FOR WINDOWS ORDINARY SIZES

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost per sash.....	.15	.16	.17	.18	.20	.21	.22	.23	.25
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost per sash.....	.16	.18	.19	.20	.22	.23	.25	.26	.28
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost per sash.....	.18	.20	.21	.23	.25	.26	.28	.29	.31

SASH HANGING WITH CORD AND WEIGHTS, LOCKS AND LIFTS

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost per sash.....	.20	.21	.23	.25	.26	.28	.30	.31	.33
Carpenter's wages 9 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost per sash.....	.22	.24	.26	.28	.30	.32	.34	.35	.37
Carpenter's wages 8 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost per sash.....	.25	.27	.29	.31	.33	.35	.37	.39	.41

If windows have two sash, double the above prices.

SASH, TRANSOM OVER SINGLE DOORS WITH LATCH

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost per sash.....	.25	.27	.29	.31	.33	.35	.37	.39	.41
Carpenter's wages 9 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost per sash.....	.29	.31	.34	.36	.39	.41	.43	.46	.48
Carpenter's wages 8 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost per sash.....	.33	.36	.39	.42	.45	.48	.50	.53	.56

SIDING WITH 6-INCH BEVELED SIDING WITHOUT PAPER

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.85	.92	1.00	1.07	1.14	1.21	1.28	1.35	1.42

Continued on Page 523

Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.96	1.04	1.12	1.20	1.28	1.36	1.44	1.52	1.60
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.07	1.16	1.25	1.33	1.42	1.51	1.60	1.69	1.78

SIDING WITH 6-INCH BEVELED SIDING WITH PAPER

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.00	1.08	1.16	1.25	1.33	1.41	1.50	1.58	1.66
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.12	1.21	1.30	1.40	1.49	1.59	1.68	1.77	1.87
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.25	1.35	1.45	1.56	1.66	1.77	1.87	1.97	2.08

523

CARPENTER WORK

SIDING WITH 6-INCH COVE SIDING WITHOUT PAPER

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.00	1.08	1.16	1.25	1.33	1.41	1.50	1.58	1.66
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.12	1.21	1.30	1.40	1.49	1.59	1.68	1.77	1.87
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.25	1.35	1.45	1.56	1.66	1.77	1.87	1.97	2.08

SIDING WITH 6-INCH COVE SIDING WITH PAPER

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.20	1.30	1.40	1.50	1.60	1.70	1.80	1.90	2.00
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.35	1.46	1.57	1.68	1.80	1.91	2.02	2.13	2.25
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.50	1.62	1.75	1.87	2.00	2.12	2.25	2.37	2.50

SIDING WITH 12-INCH BARN BOARDS

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.42	.46	.50	.53	.57	.60	.64	.67	.71
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.47	.52	.56	.59	.64	.67	.72	.75	.80
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.53	.58	.62	.66	.71	.75	.80	.84	.89

SIDING WITH 12-INCH BARN BOARDS AND BATTONED

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.60	.65	.70	.75	.80	.85	.90	.95	1.00
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.67	.73	.78	.84	.90	.95	1.01	1.06	1.12

Continued on Page 525

Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.75	.81	.87	.93	1.00	1.06	1.12	1.18	1.25

The prices given on siding, allows carpenters to work in pairs.

SHEATHING SIDES OF BUILDINGS WITH COMMON BOARDS

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.37	.40	.43	.46	.50	.53	.56	.59	.62
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.42	.45	.48	.52	.56	.59	.63	.66	.70
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.47	.50	.54	.58	.62	.66	.70	.74	.78

CARPENTER WORK

SHEATHING SIDES OF BUILDING WITH 8-INCH SHIPLAP

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.42	.46	.50	.53	.57	.60	.64	.67	.71
Carpenter's wages 9 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.47	.52	.56	.59	.64	.67	.72	.75	.80
Carpenter's wages 8 hours.	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	.53	.58	.62	.66	.71	.75	.80	.84	.89

The cost given on Sheathing, allows carpenters to work in pairs.

STUDDING FOR OUTSIDE FRAME BUILDINGS (2x4 STUD)

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot (mills).....	0.7-10	0.8-10	0.8-10	0.9-10	1	01 1/4	1 1/4	01 1/4	1 1/4
Carpenter's wages 9 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot (mills).....	0.8-10	0.9-10	0.9-10	1 1-24	1 1-9	1 13-72	1 1/4	1 23-72	1 7 1/16
Carpenter's wages 8 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot (mills).....	0.9-10	1 1-64	1 3-32	1 11-64	1 1/4	1 21-64	1 13-32	1 31-64	1 9 1/16

STUDDING FOR OUTSIDE FRAME BUILDINGS (2x6 STUD)

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot (mills).....	0.8-10	0.8-10	0.9-10	1	1 1-15	1 2-15	1 1-5	1 4-15	1 1/4
Carpenter's wages 9 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot (mills).....	0.8-10	0.9-10	1 1-25	1 1-9	.01 3/4	1 1/4	1 1/4	1 5-12	1 17-35
Carpenter's wages 8 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost lineal foot (cts.).....	.01	1 1-12	.01 3/4	.01 3/4	.01 3/4	1 5-12	.01 3/4	1 7-12	.01 3/4

The above prices allows carpenters to work in pairs.

WAINSCOTING 3 FEET TO 4 FEET HIGH, BEADED PINE WITH ORDINARY TOP MOULDING

Carpenter's wages 10 hours	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.37	1.49	1.61	1.72	1.83	1.94	2.06	2.17	2.29

Continued on Page 527

Carpenter's wages 8 hours.....	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	1.71	1.85	2.00	2.14	2.28	2.42	2.57	2.71	2.85
WAINSCOTING 3 FEET TO 4 FEET HIGH, OAK OR SIMILAR WOODS, TOP MOULDING									
Carpenter's wages 10 hours.....	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	2.40	2.60	2.80	3.00	3.20	3.40	3.60	3.80	4.00
Carpenter's wages 9 hours.....	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	2.70	2.92	3.15	3.37	3.60	3.82	4.05	4.27	4.50
Carpenter's wages 8 hours.....	\$3.00	\$3.25	\$3.50	\$3.75	\$4.00	\$4.25	\$4.50	\$4.75	\$5.00
Cost, square.....	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00

ROOF PITCH OR ELEVATION

By the "Pitch" of a roof is meant the relation which the height of the ridge above the level of the roof plates bears to the span or the distance between the studs or walls on which the roof rests.

The length of rafters for most any pitch can be found as follows from any given span:

If $\frac{1}{4}$ pitch, multiply span by .559 or 7-12 nearly.

If $\frac{1}{2}$ pitch, multiply span by 6 or 3-5 nearly.

If $\frac{3}{4}$ pitch, multiply span by .625 or $\frac{5}{8}$ nearly.

If $1\frac{1}{2}$ pitch, multiply span by 71 or 7-10 nearly.

If $\frac{5}{8}$ pitch, multiply span by 8 or 4-5 nearly.

If full pitch, multiply span by .112 or $1\frac{1}{2}$ nearly.

The length thus obtained must be added to amount of projections of rafters at the eaves. As rafters are purchased of even lengths, a few inches more or less on their lengths will make a difference to the pitch so slight that it cannot be detected by the eye.

EXAMPLE.—To determine the length of rafters for a roof constructed one-half ($\frac{1}{2}$) pitch, with a span of 24 feet; multiply 24 times 71 equals 17.04 or practically just 17 feet. A projection of one foot for eaves makes the length to purchase 18 feet.

CARPENTER WORK

RULES FOR ESTIMATING FLOORING, CEILING, SHIPLAP, ETC.

- For 3-inch flooring, add one-third ($\frac{1}{3}$) of measurement for matching.
- For 4-inch flooring, add one-fourth ($\frac{1}{4}$) of measurement for matching.
- For 6-inch flooring, add one-fifth ($\frac{1}{5}$) of measurement for matching.
- For 4-inch ceiling, add one-third ($\frac{1}{3}$) of measurement for matching.
- For 6-inch ceiling, add one-fifth ($\frac{1}{5}$) of measurement for matching.
- For 8-inch shiplap, add one-sixth ($\frac{1}{6}$) of measurement for matching.
- For 10-inch shiplap, add one-eighth ($\frac{1}{8}$) of measurement for matching.
- For 12-inch shiplap, add one-tenth ($\frac{1}{10}$) of measurement for matching.

ESTIMATING NAILS FOR WOODWORK OF VARIOUS KINDS

- For 1,000 feet of flooring, etc., 6 wide, requires about 35 pounds of 10 penny nails.
- For 1,000 feet of sheathing requires about 25 pounds of 10 penny nails.
- For 1,000 feet of rafters, studding, etc., requires about 10 pounds of 20 penny nails.

CASING NAILS FOR WOODWORK OF VARIOUS KINDS

For 1,000 shingles requires about $3\frac{1}{2}$ pounds shingle nails.

For 1,000 feet lineal of base, requires about 10 pounds casing nails.

For casing one door requires about 1 pound casing nails.

For casing one window requires about $\frac{3}{4}$ pound casing nails.

WEIGHTS OF CYPRESS LUMBER

1,000 Feet of Rough 2-inch plank or less weighs.....	3,000 pounds
1,000 Feet of Rough $2\frac{1}{2}$ and 3 inch weighs.....	3,500 pounds
1,000 Feet of $\frac{7}{8}$ Flooring and Ceiling weighs.....	2,300 pounds
1,000 Feet of $\frac{5}{8}$ Ceiling weighs.....	1,600 pounds
1,000 Feet of $\frac{1}{2}$ -inch Bevel Siding weighs.....	1,000 pounds
1,000 Shingles weighs.....	300 pounds
1,000 Lath, Plaster, weighs.....	500 pounds
1,000 Feet O. G. Battens, 2-inch weighs.....	500 pounds
1,000 Feet O. G. Battens, 3-inch weighs.....	700 pounds

WOOD WORK

WEIGHT OF WHITE PINE

	Green	Dry
1,000 Feet Rough Timbers.....	3,200	2,500
1,000 Feet Rough Lumber Boards, etc.....	3,000	2,400
1,000 Feet Dressed Lumber Boards, etc.....	2,550	2,000

1,000 Feet Dressed and Matched Boards, etc.	2,425	1,800
1,000 Feet O. G. Battens	2,000	1,550
1,000 Feet $\frac{3}{4}$ Ceiling and Siding	1,200	825
1,000 Shingles	450	275
1,000 Lath	1,000	525

WEIGHTS OF NORWAY PINE

	Green	Dry
1,000 Feet Rough Timbers	3,500	2,775
1,000 Feet Rough Plank, etc.	3,300	2,675
1,000 Feet Dressed Lumber, etc.	2,950	2,350
1,000 Feet Dressed and Matched Lumber	2,575	2,000

WEIGHT OF PACIFIC COAST LUMBER

1,000 Feet Fir 1-inch, Rough	2,200
1,000 Feet Red Cedar 1-inch, Rough	2,300
1,000 Feet Red Cedar 1-inch, Dressed	2,000
1,000 Feet Sugar Pine 1-inch, Rough	2,200
1,000 Feet Redwood 1 to 2-inch, Rough	2,500
1,000 Feet Redwood 1 to 2 inch, S. 1 S.	2,200
1,000 Feet Redwood 1 to 2 inch, S. 2 S.	2,000
1,000 Cedar Shingles 14 in.	200

Approximate weight of mouldings 1x1 inches per 100 lineal feet, 15 pounds

TABLE IV. 1.

Boards, Planks, Posts, Girders, Joists, Rafters, Furring, etc., reduced to board measure, 1 inch thick, 12 inches square:

LENGTH IN FEET 1x1 INCHES TO 1x24 INCHES

SIZE IN INCHES	FEET 1	FEET 2	FEET 3	FEET 4	FEET 5	FEET 6	FEET 7	FEET 8	FEET 9	FEET 10	FEET 12	FEET 14	FEET 16	FEET 18	FEET 20	FEET 22	FEET 24	FEET 26
	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.
1x1.....	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26
1x2.....	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26
1x3.....	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26
1x4.....	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26
1x5.....	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26
1x6.....	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26
1x7.....	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26
1x8.....	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26
1x9.....	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26
1x10.....	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26
1x11.....	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26
1x12.....	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26
1x13.....	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26
1x14.....	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26
1x15.....	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26
1x16.....	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26
1x17.....	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26
1x18.....	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26
1x19.....	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26
1x20.....	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26
1x21.....	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26
1x22.....	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26
1x23.....	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26
1x24.....	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26

NOTE.—See on last page of Lumber Tables, explanation how to find the amount of lumber in any piece of lumber from 1 inch to 24 inches thick, 1 inch to 24 inches in width and 1 foot to 26 feet in length.

TABLE No. 2.

LUMBER TABLES
LENGTH IN FEET $1\frac{1}{2}$ INCH TO $1\frac{1}{2}$ x 24 INCHES

SIZE IN INCHES	FEET 1	FEET 2	FEET 3	FEET 4	FEET 5	FEET 6	FEET 7	FEET 8	FEET 9	FEET 10	FEET 12	FEET 14	FEET 16	FEET 18	FEET 20	FEET 22	FEET 24	FEET 26
	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.	FT.-IN.
$1\frac{1}{2}$ x 1.	$1\frac{1}{2}$	3	$4\frac{1}{2}$	6	$7\frac{1}{2}$	9	$10\frac{1}{2}$	1-0	1- $1\frac{1}{2}$	1-3	1-6	1-9	2-0	2-3	2-6	2-9	3-0	3-3
$1\frac{1}{2}$ x 2.	$2\frac{1}{2}$	6	$1-1\frac{1}{2}$	1-0	1-3	1-6	1-9	2-0	2-3	2-6	3-0	3-6	4-0	4-6	5-0	5-6	6-0	6-6
$1\frac{1}{2}$ x 3.	$4\frac{1}{2}$	9	1-6	1-6	1-10 $\frac{1}{2}$	2-3	2-7 $\frac{1}{2}$	3-0	3-4 $\frac{1}{2}$	3-9	4-6	5-3	6-0	6-9	7-6	8-3	9-0	9-9
$1\frac{1}{2}$ x 4.	$7\frac{1}{2}$	1-0	1-6	2-0	2-6	3-0	3-6	4-0	4-6	5-0	6-0	7-0	8-0	9-0	10-0	11-0	12-0	13-0
$1\frac{1}{2}$ x 5.	0	1-3	1-10 $\frac{1}{2}$	3-0	3-9	4-6	5-3	6-0	6-9	7-6	8-3	9-0	10-0	11-3	12-6	13-9	15-0	16-3
$1\frac{1}{2}$ x 6.	$10\frac{1}{2}$	1-6	2-3	3-0	3-9	4-6	5-3	6-0	6-9	7-6	8-3	9-0	10-6	11-3	12-6	13-9	15-0	16-3
$1\frac{1}{2}$ x 7.	1-0	1-9	2-7 $\frac{1}{2}$	3-6	4-4 $\frac{1}{2}$	5-3	6-1 $\frac{1}{2}$	7-0	7-10 $\frac{1}{2}$	8-9	10-6	12-3	14-0	15-9	17-6	19-3	21-0	22-9
$1\frac{1}{2}$ x 8.	1-3	2-0	3-0	4-0	5-0	6-0	7-0	8-0	9-0	10-0	12-0	14-0	16-0	18-0	20-0	22-0	24-0	26-0
$1\frac{1}{2}$ x 9.	1-6	2-3	3-4 $\frac{1}{2}$	4-6	5-7 $\frac{1}{2}$	6-9	7-10 $\frac{1}{2}$	8-3	9-7 $\frac{1}{2}$	10-11 $\frac{1}{2}$	13-6	15-9	18-0	20-3	22-6	24-9	27-0	29-3
$1\frac{1}{2}$ x 10.	1-9	2-6	3-9	5-0	6-3	7-6	8-9	10-0	11-3	12-6	15-0	17-6	20-0	22-6	25-0	27-6	30-0	33-0
$1\frac{1}{2}$ x 11.	1-3	2-0	4-1 $\frac{1}{2}$	5-6	6-10 $\frac{1}{2}$	8-3	9-7 $\frac{1}{2}$	11-0	12-4 $\frac{1}{2}$	13-9	16-6	19-3	22-0	24-9	27-6	30-3	33-0	36-0
$1\frac{1}{2}$ x 12.	1-6	3-0	4-6	6-0	7-6	9-0	10-6	12-0	13-6	15-0	18-0	21-0	24-0	27-0	30-0	33-0	36-0	39-0
$1\frac{1}{2}$ x 13.	1-9	3-6	5-3	7-0	8-9	10-6	12-3	14-0	15-9	17-6	21-0	24-6	28-0	32-6	36-0	39-6	43-0	46-6
$1\frac{1}{2}$ x 14.	1-10 $\frac{1}{2}$	3-9	5-7 $\frac{1}{2}$	8-6	9-4 $\frac{1}{2}$	11-3	13-1 $\frac{1}{2}$	15-0	16-10 $\frac{1}{2}$	18-9	22-6	26-3	30-0	33-9	37-6	41-3	45-0	48-6
$1\frac{1}{2}$ x 15.	2-0	4-0	6-0	8-0	10-0	12-0	14-0	16-0	18-0	20-0	24-0	28-0	32-0	36-0	40-0	44-0	48-0	52-0
$1\frac{1}{2}$ x 16.	2-3	4-6	6-9	9-0	11-3	13-6	15-9	18-0	20-3	22-6	27-0	31-6	36-0	40-6	45-0	49-6	54-0	58-6
$1\frac{1}{2}$ x 17.	2-6	5-3	8-0	10-6	13-0	15-6	18-0	20-6	23-0	25-6	30-6	35-0	40-0	45-0	50-0	55-0	60-0	65-0
$1\frac{1}{2}$ x 18.	3-0	6-0	9-0	12-0	15-0	18-0	21-0	24-0	27-0	30-0	36-0	42-0	48-0	54-0	60-0	66-0	72-0	78-0
$1\frac{1}{2}$ x 19.	3-3	6-6	10-0	13-3	16-6	20-0	23-3	27-0	30-3	33-6	40-6	48-0	56-0	64-0	72-0	80-0	88-0	96-0
$1\frac{1}{2}$ x 20.	3-6	7-0	11-3	14-6	18-0	21-3	25-0	28-3	32-0	35-3	43-0	51-0	59-0	67-0	75-0	83-0	91-0	99-0
$1\frac{1}{2}$ x 21.	4-0	8-0	12-0	16-0	20-0	24-0	28-0	32-0	36-0	40-0	48-0	56-0	64-0	72-0	80-0	88-0	96-0	104-0
$1\frac{1}{2}$ x 22.	4-3	8-6	13-3	17-6	21-9	26-0	30-3	34-6	39-0	43-3	51-6	60-0	68-6	77-0	85-6	94-0	102-6	111-0
$1\frac{1}{2}$ x 23.	4-6	9-0	14-6	19-0	23-6	28-0	32-6	37-0	41-6	46-0	54-0	63-0	71-6	80-0	88-6	97-0	105-6	114-0
$1\frac{1}{2}$ x 24.	5-0	10-0	16-0	21-0	26-0	31-0	36-0	41-0	46-0	51-0	60-0	69-0	78-0	87-0	96-0	105-0	114-0	123-0

TABLE No. 3.

LUMBER TABLES

LENGTH IN FEET (2x2 INCHES TO 2x24 INCHES)

SIZE IN INCHES	FEET 1	FEET 2	FEET 3	FEET 4	FEET 5	FEET 6	FEET 7	FEET 8	FEET 9	FEET 10	FEET 12	FEET 14	FEET 16	FEET 18	FEET 20	FEET 22	FEET 24	FEET 26
2x2	4	8	1-0	1-4	1-8	2-0	2-4	2-8	3-0	3-4	4-0	4-8	5-4	6-0	6-8	7-4	8-0	8-8
2x3	6	1-0	1-6	2-0	2-6	3-0	3-6	4-0	4-6	5-0	6-0	7-0	8-0	9-0	10-0	11-0	12-0	13-0
2x4	8	1-4	2-0	2-8	3-4	4-0	4-8	5-4	6-0	6-8	8-0	9-4	10-8	12-0	13-4	14-8	16-0	17-4
2x5	10	1-8	2-6	3-4	4-2	5-0	5-10	6-8	7-6	8-4	10-0	11-8	13-4	15-0	16-8	18-4	20-0	21-8
2x6	12	2-0	3-0	4-0	5-0	6-0	7-0	8-0	9-0	10-0	12-0	14-0	16-0	18-0	20-0	22-0	24-0	26-0
2x7	14	2-4	3-6	4-8	5-10	7-0	8-2	9-4	10-6	11-8	14-0	16-4	18-8	21-2	23-6	26-0	28-4	30-8
2x8	16	2-8	4-0	5-4	6-8	8-0	9-4	10-8	12-2	13-6	16-0	18-4	20-8	23-2	25-6	28-0	30-4	32-8
2x9	18	3-0	4-6	6-0	7-6	9-0	10-6	12-2	13-8	15-4	18-0	20-4	22-8	25-2	27-6	30-0	32-4	34-8
2x10	20	3-4	5-0	6-8	8-4	10-0	11-8	13-4	15-0	16-8	19-2	21-6	24-0	26-4	28-8	31-2	33-6	36-0
2x11	22	3-8	5-6	7-4	9-2	11-0	12-10	14-8	16-6	18-4	20-8	23-2	25-6	28-0	30-4	32-8	35-2	37-6
2x12	24	4-0	6-0	8-0	10-0	12-0	14-0	16-0	18-0	20-0	22-0	24-0	26-0	28-0	30-0	32-0	34-0	36-0
2x13	26	4-4	6-6	8-8	10-10	12-12	14-14	16-16	18-18	20-20	22-22	24-24	26-26	28-28	30-30	32-32	34-34	36-36
2x14	28	4-8	7-0	9-4	11-8	14-12	16-16	18-20	20-24	22-28	24-32	26-36	28-40	30-44	32-48	34-52	36-56	38-60
2x15	30	5-0	7-4	10-0	13-4	16-8	19-12	22-16	25-20	28-24	31-28	34-32	37-36	40-40	43-44	46-48	49-52	52-56
2x16	32	5-4	8-0	11-0	14-4	17-8	20-12	23-16	26-20	29-24	32-28	35-32	38-36	41-40	44-44	47-48	50-52	53-56
2x17	34	5-8	8-6	11-6	15-0	18-4	21-8	24-12	27-16	30-20	33-24	36-28	39-32	42-36	45-40	48-44	51-48	54-52
2x18	36	6-0	9-0	12-0	16-0	19-0	22-0	25-0	28-0	31-0	34-0	37-0	40-0	43-0	46-0	49-0	52-0	55-0
2x19	38	6-4	9-6	12-6	17-4	20-8	23-12	26-16	29-20	32-24	35-28	38-32	41-36	44-40	47-44	50-48	53-52	56-60
2x20	40	6-8	10-0	13-4	18-0	21-12	24-16	27-20	30-24	33-28	36-32	39-36	42-40	45-44	48-48	51-52	54-56	57-60
2x21	42	7-0	10-6	14-0	19-0	22-6	25-10	28-14	31-18	34-22	37-26	40-30	43-34	46-38	49-42	52-46	55-50	58-54
2x22	44	7-4	11-0	15-0	20-0	23-12	26-16	29-20	32-24	35-28	38-32	41-36	44-40	47-44	50-48	53-52	56-60	59-64
2x23	46	7-8	11-6	15-6	20-6	23-18	26-22	29-26	32-30	35-34	38-38	41-42	44-48	47-52	50-56	53-60	56-64	59-68
2x24	48	8-0	12-0	16-0	20-0	24-0	28-0	32-0	36-0	40-0	44-0	48-0	52-0	56-0	60-0	64-0	68-0	72-0

EXAMPLE.—To find amount of Lumber, Board Measure, as per Lumber Bill made for some particular building:
 100 Pieces 2x 4-12-0 long, Table No. 3 shows 8 feet, board measure, times 100 equals. 800 feet
 60 Pieces 2x10-16-0 long, Table No. 3 shows 26 feet 8 inches, board measure, times 60 equals. 1,600 feet
 5 Pieces 4x 8-12-0 long, Table No. 7 shows 32 feet 0 inches, board measure, times 5 equals. 160 feet
 4 Pieces 8x12-14-0 long, Table No. 13 shows 112 feet 0 inches, board measure, times 4 equals 448 feet
 Total Board Measure. 3,008 feet

TABLE NO. 4.

LUMBER TABLES

LENGTH IN FEET (2½x1 INCHES TO 2½x24 INCHES)

SIZE IN INCHES	FEET 1 FT.-IN.	FEET 2 FT.-IN.	FEET 3 FT.-IN.	FEET 4 FT.-IN.	FEET 5 FT.-IN.	FEET 6 FT.-IN.	FEET 7 FT.-IN.	FEET 8 FT.-IN.	FEET 9 FT.-IN.	FEET 10 FT.-IN.	FEET 12 FT.-IN.	FEET 14 FT.-IN.	FEET 16 FT.-IN.	FEET 18 FT.-IN.	FEET 20 FT.-IN.	FEET 22 FT.-IN.	FEET 24 FT.-IN.	FEET 26 FT.-IN.
2½x1.....	2½	5	7½	10	1-0½	1-3	1-5½	1-8	1-10½	2-1	2-6	2-11	3-4	3-9	4-2	4-7	5-0	5-5
2½x2.....	5	10	1-3	1-8	2-1	2-6	2-11	3-4	3-9	4-2	5-0	5-10	6-8	7-6	8-4	9-2	10-0	10-10
2½x3.....	7½	1-3	1-10½	2-6	3-1½	3-9	4-4½	5-0	5-7½	6-3	7-6	8-9	10-0	11-3	12-6	13-9	15-0	16-3
2½x4.....	10	1-8	2-6	3-4	4-2	5-0	5-10	6-8	7-6	8-4	10-0	11-3	12-6	14-0	16-8	18-4	20-0	21-8
2½x5.....	1-0½	2-1	3-1½	4-2	5-2½	6-3	7-3	8-4	9-4½	10-5½	12-6	14-0	16-0	18-9	20-10	22-11	25-0	27-1
2½x6.....	1-3	2-6	3-9	5-0	6-3	7-6	8-9	10-0	11-3	12-6	15-0	17-6	20-0	22-6	25-0	27-6	30-0	32-6
2½x7.....	1-5½	2-11	4-4½	5-10	7-3½	8-9	10-0	11-3	12-6	15-0	17-6	20-0	22-6	25-0	27-6	30-0	32-6	35-0
2½x8.....	1-8	3-4	5-0	6-8	8-4	10-0	11-3	13-9	15-0	16-8	18-4	20-0	22-6	25-0	27-6	30-0	32-6	35-0
2½x9.....	1-10½	3-9	5-7½	7-6	9-4½	11-3	13-9	15-0	16-8	18-4	20-0	22-6	25-0	27-6	30-0	32-6	35-0	37-11
2½x10.....	2-1	4-2	6-3	8-4	10-5	12-6	14-7	16-8	18-9	20-10	22-11	25-0	27-6	30-0	32-6	35-0	37-11	40-0
2½x11.....	2-3½	4-7	6-10½	8-13	10-16	12-19	14-22	16-25	18-32	20-35	22-38	25-41	27-44	30-47	32-50	35-53	38-56	41-59
2½x12.....	2-6	5-0	7-6	10-0	12-6	15-0	17-6	20-0	22-6	25-0	27-6	30-0	32-6	35-0	37-6	40-0	42-6	45-0
2½x13.....	2-8½	5-5	8-1½	10-10½	12-13	15-16	18-19	21-22	24-25	27-28	30-31	33-34	36-37	39-40	42-43	45-46	48-49	51-50
2½x14.....	2-11	5-10	8-9	11-8	14-7	17-6	20-5	23-4	26-3	29-2	32-1	35-0	38-0	41-0	44-0	47-0	50-0	53-0
2½x15.....	3-1½	6-3	9-4½	12-6	15-9	18-12	21-15	24-18	27-21	30-24	33-27	36-30	39-33	42-36	45-30	48-33	51-36	54-39
2½x16.....	3-4	6-8	10-0	13-4	16-8	20-0	23-4	26-8	30-0	33-4	36-8	40-0	43-4	46-8	50-0	53-4	56-8	59-2
2½x17.....	3-6½	7-11	10-7½	14-2	17-8½	21-3	24-9½	28-4	31-10½	34-5	37-11	40-6	43-12	46-18	49-24	52-30	55-36	58-42
2½x18.....	3-9	7-6	11-3	15-0	18-9	22-6	26-3	30-0	33-9	37-6	41-3	45-0	48-6	52-3	56-0	59-7	63-4	67-1
2½x19.....	3-11½	7-11	11-10½	15-10	19-9½	23-9	27-8½	31-8	35-7½	39-7	43-6	47-5	51-4	55-4	59-3	63-2	67-1	71-0
2½x20.....	4-2	8-4	12-6	16-8	20-10	24-12	28-15	32-18	36-21	40-24	44-27	48-30	52-33	56-36	60-39	64-42	68-45	72-48
2½x21.....	4-4½	8-9	13-1½	17-6	21-10½	25-12	29-15	33-18	37-21	41-24	45-27	49-30	53-33	57-36	61-39	65-42	69-45	73-48
2½x22.....	4-7	9-2	13-9	18-4	22-11	26-14	30-17	34-20	38-23	42-26	46-29	50-32	54-35	58-38	62-41	66-44	70-47	74-50
2½x23.....	4-9½	9-7	14-4½	19-2	23-11½	27-14	31-17	35-20	39-23	43-26	47-29	51-32	55-35	59-38	63-41	67-44	71-47	75-50
2½x24.....	5-0	10-0	15-0	20-0	25-0	30-0	35-0	40-0	45-0	50-0	55-0	60-0	65-0	70-0	75-0	80-0	85-0	90-0

TABLE No. 5.

LUMBER TABLES

LENGTH IN FEET (3x3 INCHES TO 3x24 INCHES)

SIZE IN INCHES	FEET 1	FEET 2	FEET 3	FEET 4	FEET 5	FEET 6	FEET 7	FEET 8	FEET 9	FEET 10	FEET 12	FEET 14	FEET 16	FEET 18	FEET 20	FEET 22	FEET 24	FEET 26
	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.
3x 3	0	1-6	2-3	3-0	3-0	4-6	5-3	6-0	6-0	7-6	9-0	10-6	12-0	13-6	15-0	16-6	18-0	19-6
3x 4	1-0	2-0	3-0	4-0	5-0	6-0	7-0	8-0	9-0	10-0	12-0	14-0	16-0	18-0	20-0	22-0	24-0	26-0
3x 5	1-3	2-6	3-9	5-0	6-3	7-6	8-9	10-0	11-3	12-6	15-0	17-6	20-0	22-6	25-0	27-6	30-0	32-6
3x 6	1-6	3-0	4-6	6-0	7-6	9-0	10-6	12-0	13-6	15-0	18-0	21-0	24-0	27-0	30-0	33-0	36-0	39-0
3x 7	1-9	3-6	5-3	7-0	8-0	10-6	12-3	14-0	15-9	17-6	21-0	24-0	28-0	31-6	35-0	38-6	42-0	45-6
3x 8	2-0	4-0	6-0	8-0	10-0	12-0	14-0	16-0	18-0	20-0	24-0	28-0	32-0	36-0	40-0	44-0	48-0	52-0
3x 9	2-3	4-6	6-9	9-0	11-3	13-6	15-9	18-0	20-3	22-6	27-0	31-6	36-0	40-6	45-0	50-0	54-0	58-6
3x 10	2-6	5-0	7-6	10-0	12-6	15-0	17-6	20-0	22-6	25-0	30-0	35-0	40-0	45-0	50-0	55-0	60-0	65-0
3x 11	2-9	5-6	8-3	11-0	13-9	16-6	19-3	22-0	24-9	27-6	33-0	38-6	44-0	49-6	55-0	60-6	66-0	71-6
3x 12	3-0	6-0	9-0	12-0	15-0	18-0	21-0	24-0	27-0	30-0	36-0	42-0	48-0	54-0	60-0	66-0	72-0	78-0
3x 13	3-3	6-6	9-9	13-0	16-3	19-6	22-9	26-0	29-3	32-6	39-0	45-6	52-0	58-6	65-0	71-6	78-0	84-6
3x 14	3-6	7-0	10-6	14-0	17-6	21-0	24-6	28-0	31-6	35-0	42-0	49-0	56-0	63-0	70-0	77-0	84-0	91-0
3x 15	3-9	7-6	11-3	15-0	18-9	22-6	26-3	30-0	33-9	37-6	45-0	52-6	60-0	67-6	75-0	82-6	90-0	97-6
3x 16	4-0	8-0	12-0	16-0	20-0	24-0	28-0	32-0	36-0	40-0	48-0	56-0	64-0	72-0	80-0	88-0	96-0	104-0
3x 17	4-3	8-6	12-9	17-0	21-3	25-6	29-9	34-0	38-3	42-6	51-0	59-6	68-0	76-6	85-0	93-6	102-0	110-6
3x 18	4-6	9-0	13-6	18-0	22-6	27-0	31-6	36-0	40-6	45-0	54-0	63-0	72-0	81-0	90-0	99-0	108-0	117-0
3x 19	4-9	9-6	14-3	19-0	23-9	28-6	33-3	38-0	42-9	47-6	57-0	66-6	76-0	85-6	95-0	104-6	114-0	123-6
3x 20	5-0	10-0	15-0	20-0	25-0	30-0	35-0	40-0	45-0	50-0	60-0	70-0	80-0	90-0	100-0	110-0	120-0	130-0
3x 21	5-3	10-6	15-9	21-0	26-3	31-6	36-9	42-0	47-3	52-6	63-0	73-6	84-0	94-6	105-0	115-6	126-0	136-6
3x 22	5-6	11-0	16-6	22-0	27-6	33-0	38-6	44-0	49-6	55-0	66-0	77-0	88-0	99-0	110-0	121-0	132-0	143-0
3x 23	5-9	11-6	17-3	23-0	28-9	34-6	40-3	46-0	51-9	57-6	69-0	80-6	92-0	103-6	115-0	126-6	138-0	149-6
3x 24	6-0	12-0	18-0	24-0	30-0	36-0	42-0	48-0	54-0	60-0	72-0	84-0	96-0	108-0	120-0	132-0	144-0	156-0

TABLE No. 6.

LUMBER TABLES

LENGTH IN FEET (3'x1 INCHES TO 3'x24 INCHES)

SIZES IN INCHES		FEET 1	FEET 2	FEET 3	FEET 4	FEET 5	FEET 6	FEET 7	FEET 8	FEET 9	FEET 10	FEET 12	FEET 14	FEET 16	FEET 18	FEET 20	FEET 22	FEET 24	FEET 26
		FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.
3'x1	3½	7	1-2	10½	1-2	1-5½	1-9	2-0½	2-4	2-7½	2-11	3-6	4-1	4-8	5-3	5-10	6-5	7-0	7-7
3'x2	7	1-2	1-9	2-4	2-11	3-6	4-1	4-8	5-3	5-10	6-5	7-0	7-7	8-2	8-9	9-6	10-3	11-0	11-7
3'x3	10½	1-9	2-7½	3-6	4-4½	5-3	6-1½	7-0	7-10½	8-9	10-6	12-3	14-0	15-7	17-4	19-1	20-8	22-5	24-2
3'x4	1-2	2-4	3-6	4-8	5-10	7-0	8-2	9-4	10-6	11-8	14-0	16-2	18-4	20-6	22-8	25-0	27-2	29-4	31-6
3'x5	1-5½	2-11	4-4½	5-10	7-3½	8-9	10-2½	11-8	13-4	14-7	17-6	20-5	23-4	26-3	29-2	32-1	35-0	37-9	40-8
3'x6	1-9	3-6	5-3	7-0	8-9	10-6	12-3	14-0	15-7	17-4	19-1	20-8	22-5	24-2	25-9	27-6	29-3	31-0	32-7
3'x7	2-0½	4-1	6-1½	8-2	10-2½	12-3	14-3½	16-4	18-4½	20-5	22-6	24-6	26-7	28-7	30-8	32-8	34-9	36-9	39-0
3'x8	2-4	4-8	7-0	9-4	11-8	14-0	16-4	18-8	21-0	23-3	25-6	27-9	30-2	32-5	34-8	37-1	39-4	41-7	44-0
3'x9	2-7½	5-3	7-10½	10-6	13-1½	15-9	18-4½	21-0	23-3	25-6	27-9	30-2	32-5	34-8	37-1	39-4	41-7	44-0	46-3
3'x10	2-11	5-10	8-9	11-8	14-7	17-6	20-5	23-4	26-3	29-2	32-1	35-0	37-9	40-8	43-7	46-6	49-5	52-4	55-3
3'x11	3-2½	6-5	9-7½	12-10½	15-9	19-3	22-5½	25-8	28-10½	31-3	33-6	35-9	38-2	40-5	42-8	45-1	47-4	49-7	52-0
3'x12	3-6	7-10	10-6	14-0	17-4	20-8	24-2	27-6	31-0	34-4	37-8	41-2	44-6	48-0	51-4	54-8	58-2	61-6	65-0
3'x13	3-9½	7-7	11-4½	15-2	18-11½	22-9	26-6½	30-4	34-1½	37-11	40-10	43-9	46-8	49-7	52-6	55-5	58-4	61-3	64-2
3'x14	4-1	8-2	12-3	16-4	20-5	24-6	28-7	32-8	36-9	40-10	44-11	48-12	52-13	56-14	60-15	64-16	68-17	72-18	76-19
3'x15	4-4½	8-9	13-1½	17-6	21-10½	25-9	30-7½	35-0	39-3	43-6	47-9	52-12	56-15	60-18	64-21	68-24	72-27	76-30	80-33
3'x16	4-8	9-4	14-0	18-8	23-4	28-0	32-8	37-4	42-0	46-8	51-4	56-0	60-6	65-2	69-8	74-4	79-0	83-6	88-2
3'x17	4-11	9-11	14-10½	19-10	24-9½	29-9	34-8½	39-8	44-7½	49-7	54-6½	59-6	64-5½	69-5	74-4½	79-4	84-3½	89-3	94-2½
3'x18	5-3	10-6	15-9	21-0	26-3	31-6	36-9	42-0	47-3	52-6	57-9	63-0	68-3	73-6	78-9	84-1	89-4	94-7	99-0
3'x19	5-6½	11-1	16-7½	22-2	27-8½	33-3	38-9½	44-4	49-10½	54-6	59-12½	64-7	69-13½	74-8	79-14½	84-10	89-16½	94-11	99-17½
3'x20	5-10	11-8	17-6	23-4	29-2	35-0	40-10	46-8	52-6	58-4	64-2	70-0	75-8	81-6	87-4	93-2	99-0	104-8	110-6
3'x21	6-1½	12-3	18-4	24-6	30-7½	36-9	42-10½	48-12	54-13½	60-15	66-16½	72-18	78-19½	84-21	90-22½	96-24	102-25½	108-27	114-28½
3'x22	6-5	12-10	19-3	25-8	32-1	38-6	44-11	51-4	57-9	64-2	70-7	77-0	83-5	89-10	95-15	101-20	107-25	113-30	119-35
3'x23	6-8½	13-5	20-1½	26-10	33-6	40-3	46-11½	53-8	59-11½	65-14	71-17	77-20	83-23	89-26	95-29	101-32	107-35	113-38	119-41
3'x24	7-0	14-0	21-0	28-0	35-0	42-0	49-0	56-0	63-0	70-0	77-0	84-0	91-0	98-0	105-0	112-0	119-0	126-0	133-0

TABLE NO. 1.

LUMBER TABLE

LENGTH IN FEET (4x4 INCHES TO 4x24 INCHES)

SIZE IN INCHES	FEET 1	FEET 2	FEET 3	FEET 4	FEET 5	FEET 6	FEET 7	FEET 8	FEET 9	FEET 10	FEET 12	FEET 14	FEET 16	FEET 18	FEET 20	FEET 22	FEET 24	FEET 26
	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.
4x 4.....	1-4	2-8	4-0	5-4	6-8	8-0	9-4	10-8	12-0	13-4	16-0	18-8	21-4	24-0	26-8	29-4	32-0	34-8
4x 5.....	1-8	3-4	5-0	6-8	8-4	10-0	11-8	13-4	15-0	16-8	20-0	23-4	26-8	30-0	33-4	36-8	40-0	43-4
4x 6.....	2-0	4-0	6-0	8-0	10-0	12-0	14-0	16-0	18-0	20-0	24-0	28-0	32-0	36-0	40-0	44-0	48-0	52-0
4x 7.....	2-4	4-8	7-0	9-4	11-8	14-0	16-4	18-8	21-0	23-4	28-0	32-8	37-4	42-0	46-8	51-4	56-0	60-8
4x 8.....	2-8	5-4	8-0	10-8	13-4	16-0	18-8	21-4	24-0	26-8	32-0	37-4	42-8	48-0	53-4	58-8	64-0	69-4
4x 9.....	3-0	6-0	9-0	12-0	15-0	18-0	21-0	24-0	27-0	30-0	36-0	42-0	48-0	54-0	60-0	66-0	72-0	78-0
4x 10.....	3-4	6-8	10-0	13-4	16-8	20-0	23-4	26-8	30-0	33-4	40-0	46-8	53-4	60-0	66-8	73-4	80-0	86-8
4x 11.....	3-8	7-4	11-0	14-8	18-4	22-0	25-8	29-4	33-0	36-8	44-0	51-4	58-8	66-0	73-4	80-8	88-0	95-4
4x 12.....	4-0	8-0	12-0	16-0	20-0	24-0	28-0	32-0	36-0	40-0	48-0	56-0	64-0	72-0	80-0	88-0	96-0	104-0
4x 13.....	4-4	8-8	13-0	17-4	21-8	26-0	30-4	34-8	39-0	43-4	52-0	60-8	69-4	78-0	86-8	95-4	104-0	112-8
4x 14.....	4-8	9-4	14-0	18-8	23-4	28-0	32-8	37-4	42-0	46-8	56-0	65-4	74-8	84-0	93-4	102-8	112-0	121-4
4x 15.....	5-0	10-0	15-0	20-0	25-0	30-0	35-0	40-0	45-0	50-0	60-0	70-0	80-0	90-0	100-0	110-0	120-0	130-0
4x 16.....	5-4	10-8	16-0	21-4	26-8	32-0	37-4	42-8	48-0	53-4	64-0	74-8	85-4	96-0	106-8	117-4	128-0	138-8
4x 17.....	5-8	11-4	17-0	22-8	28-4	34-0	39-8	45-4	51-0	56-8	68-0	79-4	90-8	102-0	113-4	124-8	136-0	147-4
4x 18.....	6-0	12-0	18-0	24-0	30-0	36-0	42-0	48-0	54-0	60-0	72-0	84-0	96-0	108-0	120-0	132-0	144-0	156-0
4x 19.....	6-4	12-8	19-0	25-4	31-8	38-0	44-4	50-8	57-0	63-4	76-0	88-8	101-4	114-0	126-8	139-4	152-0	164-8
4x 20.....	6-8	13-4	20-0	26-8	33-4	40-0	46-8	53-4	60-0	66-8	80-0	93-4	106-8	120-0	133-4	146-8	160-0	173-4
4x 21.....	7-0	14-0	21-0	28-0	35-0	42-0	49-0	56-0	63-0	70-0	84-0	98-0	112-0	126-0	140-0	154-0	168-0	182-0
4x 22.....	7-4	14-8	21-8	29-4	36-8	44-0	51-4	58-8	66-0	73-4	88-0	102-8	117-4	132-0	146-8	161-4	176-0	190-8
4x 23.....	7-8	15-4	22-0	30-8	38-4	46-0	53-8	61-4	69-0	76-8	92-0	107-4	122-8	138-0	153-4	168-8	184-0	199-4
4x 24.....	8-0	16-0	24-0	32-0	40-0	48-0	56-0	64-0	72-0	80-0	96-0	112-0	128-0	144-0	160-0	176-0	192-0	208-0

TABLE No. 8.

LUMBER TABLES
LENGTH IN FEET (4½x1 INCHES TO 4½x24 INCHES)

SIZE IN INCHES	FEET 1	FEET 2	FEET 3	FEET 4	FEET 5	FEET 6	FEET 7	FEET 8	FEET 9	FEET 10	FEET 12	FEET 14	FEET 16	FEET 18	FEET 20	FEET 22	FEET 24	FEET 26
4½x1	0-4½	9	1-1½	1-6	1-10½	2-3	2-7½	3-0	3-4½	3-9	4-6	5-3	6-0	6-9	7-6	8-3	9-0	9-9
4½x2	9	1-6	2-3	3-0	3-9	4-6	5-3	6-0	6-9	7-6	9-0	10-6	12-0	13-6	15-0	16-6	18-0	19-6
4½x3	1-1½	2-3	3-4½	4-6	5-7½	6-9	7-10½	8-12	9-13½	10-15	11-13	13-6	15-9	18-0	20-3	22-6	24-9	27-0
4½x4	1-6	3-0	4-6	6-0	7-6	9-0	10-6	12-0	13-6	15-9	18-0	21-0	24-0	27-0	30-0	33-0	36-0	39-0
4½x5	1-10½	3-9	5-7½	7-6	9-4½	11-3	13-6	15-9	18-0	21-0	24-0	27-0	30-0	33-9	37-6	41-3	45-0	48-9
4½x6	2-3	4-6	6-9	9-0	11-3	13-6	15-9	18-0	21-0	24-0	27-0	30-0	33-9	37-6	41-3	45-0	48-9	52-6
4½x7	2-7½	5-3	7-10½	10-6	13-6	15-9	18-0	21-0	24-0	27-0	30-0	33-9	37-6	41-3	45-0	48-9	52-6	56-3
4½x8	3-0	6-0	9-0	12-0	15-0	18-0	21-0	24-0	27-0	30-0	33-9	37-6	41-3	45-0	48-9	52-6	56-3	60-0
4½x9	3-4½	6-9	10-1½	13-6	16-6	20-3	23-3	27-0	30-0	33-9	37-6	41-3	45-0	48-9	52-6	56-3	60-0	63-9
4½x10	3-9	7-6	11-3	15-0	18-0	21-0	24-0	27-0	30-0	33-9	37-6	41-3	45-0	48-9	52-6	56-3	60-0	63-9
4½x11	4-1½	8-3	12-9	16-6	20-3	24-0	27-0	30-0	33-9	37-6	41-3	45-0	48-9	52-6	56-3	60-0	63-9	67-6
4½x12	4-6	9-0	13-6	18-0	21-0	24-0	27-0	30-0	33-9	37-6	41-3	45-0	48-9	52-6	56-3	60-0	63-9	67-6
4½x13	4-10½	9-9	14-7½	19-6	23-4	27-0	30-0	33-9	37-6	41-3	45-0	48-9	52-6	56-3	60-0	63-9	67-6	71-3
4½x14	5-3	10-6	15-9	21-0	24-0	27-0	30-0	33-9	37-6	41-3	45-0	48-9	52-6	56-3	60-0	63-9	67-6	71-3
4½x15	5-7½	11-3	16-6	22-6	26-3	30-0	33-9	37-6	41-3	45-0	48-9	52-6	56-3	60-0	63-9	67-6	71-3	75-0
4½x16	6-0	12-0	18-0	24-0	27-0	30-0	33-9	37-6	41-3	45-0	48-9	52-6	56-3	60-0	63-9	67-6	71-3	75-0
4½x17	6-4½	12-9	19-1½	25-6	30-0	33-9	37-6	41-3	45-0	48-9	52-6	56-3	60-0	63-9	67-6	71-3	75-0	78-9
4½x18	6-9	13-6	20-3	27-0	31-9	36-0	40-6	44-3	48-9	52-6	56-3	60-0	63-9	67-6	71-3	75-0	78-9	82-6
4½x19	7-1½	14-3	21-6	28-6	33-9	39-0	44-3	48-9	52-6	56-3	60-0	63-9	67-6	71-3	75-0	78-9	82-6	86-3
4½x20	7-6	15-0	22-6	30-0	36-0	42-0	48-9	52-6	56-3	60-0	63-9	67-6	71-3	75-0	78-9	82-6	86-3	90-0
4½x21	7-10½	15-9	23-4	31-9	37-6	44-3	50-6	56-3	60-0	63-9	67-6	71-3	75-0	78-9	82-6	86-3	90-0	93-9
4½x22	8-3	16-6	24-9	33-0	40-6	48-9	56-3	60-0	63-9	67-6	71-3	75-0	78-9	82-6	86-3	90-0	93-9	97-6
4½x23	8-7½	17-3	25-6	34-6	42-0	51-0	59-0	63-9	67-6	71-3	75-0	78-9	82-6	86-3	90-0	93-9	97-6	101-3
4½x24	9-0	18-0	26-3	36-0	43-9	52-6	60-0	63-9	67-6	71-3	75-0	78-9	82-6	86-3	90-0	93-9	97-6	101-3

TABLE No. 9.

LUMBER TABLES

LENGTH IN FEET (5x5 INCHES TO 5x24 INCHES)

SIZES IN INCHES	FEET 1		FEET 2		FEET 3		FEET 4		FEET 5		FEET 6		FEET 7		FEET 8		FEET 9		FEET 10		FEET 12		FEET 14		FEET 16		FEET 18		FEET 20		FEET 22		FEET 24		FEET 26		
	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.		
5x 5.....	2-1	4-2	6-3	8-4	10-5	12-6	14-7	16-8	18-9	20-10	25-0	29-2	33-4	37-6	41-8	45-10	49-8	53-0	56-8	60-0	63-0	66-0	69-0	72-0	75-0	78-0	81-0	84-0	87-0	90-0	93-0	96-0	99-0	102-0	105-0	108-0	111-0
5x 6.....	2-6	5-0	7-6	10-0	12-6	15-0	17-6	20-0	22-6	25-0	30-0	35-0	40-0	45-0	50-0	55-0	60-0	65-0	70-0	75-0	80-0	85-0	90-0	95-0	100-0	105-0	110-0	115-0	120-0	125-0	130-0	135-0	140-0	145-0	150-0	155-0	160-0
5x 7.....	2-11	5-10	8-9	11-8	14-7	17-6	20-5	23-4	26-3	29-2	33-0	36-0	39-0	42-0	45-0	48-0	51-0	54-0	57-0	60-0	63-0	66-0	69-0	72-0	75-0	78-0	81-0	84-0	87-0	90-0	93-0	96-0	99-0	102-0	105-0	108-0	111-0
5x 8.....	3-4	6-8	10-0	13-4	16-8	20-0	23-4	26-8	30-0	33-4	36-0	39-0	42-0	45-0	48-0	51-0	54-0	57-0	60-0	63-0	66-0	69-0	72-0	75-0	78-0	81-0	84-0	87-0	90-0	93-0	96-0	99-0	102-0	105-0	108-0	111-0	
5x 9.....	3-9	7-6	11-3	15-0	18-9	22-6	26-3	30-0	33-9	37-6	41-8	45-10	49-8	53-0	56-8	60-0	63-0	66-0	69-0	72-0	75-0	78-0	81-0	84-0	87-0	90-0	93-0	96-0	99-0	102-0	105-0	108-0	111-0	114-0	117-0	120-0	
5x 10.....	4-2	8-4	12-6	16-8	20-10	25-0	29-2	33-4	37-6	41-8	45-10	49-8	53-0	56-8	60-0	63-0	66-0	69-0	72-0	75-0	78-0	81-0	84-0	87-0	90-0	93-0	96-0	99-0	102-0	105-0	108-0	111-0	114-0	117-0	120-0	123-0	
5x 11.....	4-7	9-2	13-9	18-4	22-11	27-6	32-1	36-8	41-3	45-10	49-8	53-0	56-8	60-0	63-0	66-0	69-0	72-0	75-0	78-0	81-0	84-0	87-0	90-0	93-0	96-0	99-0	102-0	105-0	108-0	111-0	114-0	117-0	120-0	123-0	126-0	
5x 12.....	5-0	10-0	15-0	20-0	25-0	30-0	35-0	40-0	45-0	50-0	55-0	60-0	65-0	70-0	75-0	80-0	85-0	90-0	95-0	100-0	105-0	110-0	115-0	120-0	125-0	130-0	135-0	140-0	145-0	150-0	155-0	160-0	165-0	170-0	175-0	180-0	
5x 13.....	5-5	10-10	16-3	21-8	27-1	32-6	37-11	43-4	48-9	54-2	59-7	65-0	70-5	75-0	80-0	85-0	90-0	95-0	100-0	105-0	110-0	115-0	120-0	125-0	130-0	135-0	140-0	145-0	150-0	155-0	160-0	165-0	170-0	175-0	180-0	185-0	
5x 14.....	5-10	11-8	17-6	23-4	29-2	35-0	40-10	46-8	52-6	58-4	64-2	69-0	75-0	80-0	85-0	90-0	95-0	100-0	105-0	110-0	115-0	120-0	125-0	130-0	135-0	140-0	145-0	150-0	155-0	160-0	165-0	170-0	175-0	180-0	185-0	190-0	
5x 15.....	6-3	12-6	18-9	25-0	31-3	37-6	43-9	50-0	56-3	62-6	68-0	73-0	79-0	84-0	89-0	94-0	99-0	104-0	109-0	114-0	119-0	124-0	129-0	134-0	139-0	144-0	149-0	154-0	159-0	164-0	169-0	174-0	179-0	184-0	189-0	194-0	
5x 16.....	6-8	13-4	20-0	26-8	33-4	40-0	46-8	53-4	60-0	66-8	73-0	79-0	85-0	91-0	97-0	103-0	109-0	115-0	121-0	127-0	133-0	139-0	145-0	151-0	157-0	163-0	169-0	175-0	181-0	187-0	193-0	199-0	205-0	211-0	217-0		
5x 17.....	7-1	14-2	21-3	28-4	35-5	42-6	49-7	56-8	63-9	70-10	77-0	83-0	89-0	95-0	101-0	107-0	113-0	119-0	125-0	131-0	137-0	143-0	149-0	155-0	161-0	167-0	173-0	179-0	185-0	191-0	197-0	203-0	209-0	215-0	221-0		
5x 18.....	7-6	15-0	22-6	30-0	37-6	45-0	52-6	60-0	67-6	75-0	82-0	89-0	96-0	103-0	110-0	117-0	124-0	131-0	138-0	145-0	152-0	159-0	166-0	173-0	180-0	187-0	194-0	201-0	208-0	215-0	222-0	229-0	236-0	243-0	250-0		
5x 19.....	8-1	16-8	25-0	33-4	41-8	50-0	58-4	66-8	75-0	83-0	91-0	99-0	107-0	115-0	123-0	131-0	139-0	147-0	155-0	163-0	171-0	179-0	187-0	195-0	203-0	211-0	219-0	227-0	235-0	243-0	251-0	259-0	267-0	275-0	283-0		
5x 20.....	8-4	17-6	26-3	35-0	43-9	52-6	61-3	70-0	78-9	87-6	96-0	105-0	114-0	123-0	132-0	141-0	150-0	159-0	168-0	177-0	186-0	195-0	204-0	213-0	222-0	231-0	240-0	249-0	258-0	267-0	276-0	285-0	294-0	303-0	312-0		
5x 21.....	8-9	18-4	27-6	36-8	46-0	55-0	64-2	73-4	82-6	91-8	100-0	109-0	118-0	127-0	136-0	145-0	154-0	163-0	172-0	181-0	190-0	199-0	208-0	217-0	226-0	235-0	244-0	253-0	262-0	271-0	280-0	289-0	298-0	307-0	316-0		
5x 22.....	9-2	19-2	28-9	38-4	47-11	57-6	67-1	76-8	86-3	95-0	104-0	113-0	122-0	131-0	140-0	149-0	158-0	167-0	176-0	185-0	194-0	203-0	212-0	221-0	230-0	239-0	248-0	257-0	266-0	275-0	284-0	293-0	302-0	311-0	320-0		
5x 23.....	9-7	20-0	30-0	40-0	50-0	60-0	70-0	80-0	90-0	100-0	110-0	120-0	130-0	140-0	150-0	160-0	170-0	180-0	190-0	200-0	210-0	220-0	230-0	240-0	250-0	260-0	270-0	280-0	290-0	300-0	310-0	320-0	330-0	340-0	350-0		
5x 24.....	10-0	20-0	30-0	40-0	50-0	60-0	70-0	80-0	90-0	100-0	110-0	120-0	130-0	140-0	150-0	160-0	170-0	180-0	190-0	200-0	210-0	220-0	230-0	240-0	250-0	260-0	270-0	280-0	290-0	300-0	310-0	320-0	330-0	340-0	350-0	360-0	

LUMBER TABLES

LENGTH IN FEET (5'x1 INCHES TO 5'x24 INCHES)

SIZES IN INCHES				FEET IN FT. IN. FT. IN. FT. IN. FT. IN. FT. IN. FT. IN. FT. IN. FT. IN. FT. IN. FT. IN. FT. IN. FT. IN. FT. IN. FT. IN. FT. IN.																	
1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26				
5 1/2 x 1	5 1/2	11	1-4 1/2	1-10 2-3 1/2	2-9	3-2 1/2	3-8	4-1 1/2	4-7	5-6	6-5	7-4	8-3	9-2	10-	11-0	11-1 1/2				
5 1/2 x 2	11	1-10	2-9	3-8	4-7	5-6	6-5	7-4	8-3	9-2	10-	11-0	11-1 1/2	12-0	13-0	14-0	15-0				
5 1/2 x 3	1-4 1/2	2-9	4-1 1/2	5-6	6-10 1/2	8-3	9-7 1/2	11-4	12-10	13-8	14-6	15-4	16-2	17-0	18-0	19-0	20-0				
5 1/2 x 4	1-10 1/2	2-8	5-6	7-4	9-2	10-12	10-12	14-8 1/2	16-18	18-22	20-25	22-28	24-30	26-32	28-34	30-36	32-38				
5 1/2 x 5	2-3 1/2	4-7	6-10 1/2	9-2	11-5 1/2	13-16 1/2	15-19 1/2	18-22 1/2	21-25 1/2	24-28 1/2	27-31 1/2	30-34 1/2	33-37 1/2	36-40 1/2	39-43 1/2	42-46 1/2	45-49 1/2				
5 1/2 x 6	3-2	5-6	8-3	11-0 1/2	13-9	16-16 1/2	19-19 1/2	22-22 1/2	25-25 1/2	28-28 1/2	31-31 1/2	34-34 1/2	37-37 1/2	40-40 1/2	43-43 1/2	46-46 1/2	49-49 1/2				
5 1/2 x 7	3-8	7-4	11-0	14-8 1/2	18-10 1/2	22-10 1/2	26-10 1/2	29-13 1/2	32-16 1/2	35-19 1/2	38-22 1/2	41-25 1/2	44-28 1/2	47-31 1/2	50-34 1/2	53-37 1/2	56-40 1/2				
5 1/2 x 8	4-1 1/2	8-3	12-4 1/2	16-10 1/2	20-10 1/2	24-12 1/2	28-12 1/2	32-15 1/2	36-18 1/2	40-21 1/2	44-24 1/2	48-27 1/2	52-30 1/2	56-33 1/2	60-36 1/2	64-39 1/2	68-42 1/2				
5 1/2 x 9	5-0	10-1 1/2	15-1 1/2	20-2 1/2	25-2 1/2	30-3 1/2	35-3 1/2	40-4 1/2	45-4 1/2	50-5 1/2	55-5 1/2	60-6 1/2	65-6 1/2	70-7 1/2	75-7 1/2	80-8 1/2	85-8 1/2				
5 1/2 x 10	6-0	11-0	16-0	22-0	28-0	33-0	38-0	43-0	48-0	53-0	58-0	63-0	68-0	73-0	78-0	83-0	88-0				
5 1/2 x 11	7-0	12-0	17-0	23-0	29-0	34-0	39-0	44-0	49-0	54-0	59-0	64-0	69-0	74-0	79-0	84-0	89-0				
5 1/2 x 12	8-0	13-0	18-0	24-0	30-0	35-0	40-0	45-0	50-0	55-0	60-0	65-0	70-0	75-0	80-0	85-0	90-0				
5 1/2 x 13	9-0	14-0	19-0	25-0	31-0	36-0	41-0	46-0	51-0	56-0	61-0	66-0	71-0	76-0	81-0	86-0	91-0				
5 1/2 x 14	10-0	15-0	20-0	26-0	32-0	37-0	42-0	47-0	52-0	57-0	62-0	67-0	72-0	77-0	82-0	87-0	92-0				
5 1/2 x 15	11-0	16-0	21-0	27-0	33-0	38-0	43-0	48-0	53-0	58-0	63-0	68-0	73-0	78-0	83-0	88-0	93-0				
5 1/2 x 16	12-0	17-0	22-0	28-0	34-0	39-0	44-0	49-0	54-0	59-0	64-0	69-0	74-0	79-0	84-0	89-0	94-0				
5 1/2 x 17	13-0	18-0	23-0	29-0	35-0	40-0	45-0	50-0	55-0	60-0	65-0	70-0	75-0	80-0	85-0	90-0	95-0				
5 1/2 x 18	14-0	19-0	24-0	30-0	36-0	41-0	46-0	51-0	56-0	61-0	66-0	71-0	76-0	81-0	86-0	91-0	96-0				
5 1/2 x 19	15-0	20-0	25-0	31-																	

TABLE No. 11.

LUMBER TABLES

LENGTH IN FEET (6x6 INCHES TO 6x24 INCHES)

SIZES IN INCHES	FEET 1	FEET 2	FEET 3	FEET 4	FEET 5	FEET 6	FEET 7	FEET 8	FEET 9	FEET 10	FEET 12	FEET 14	FEET 16	FEET 18	FEET 20	FEET 22	FEET 24	FEET 26
	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.
6x 6	3-0	6-0	9-0	12-0	15-0	18-0	21-0	24-0	27-0	30-0	36-0	42-0	48-0	54-0	60-0	66-0	72-0	78-0
6x 8	3-6	7-0	10-6	14-0	17-6	21-0	24-6	28-0	31-6	35-0	42-0	49-0	56-0	63-0	70-0	77-0	84-0	91-0
6x 8	4-0	8-0	12-0	16-0	20-0	24-0	28-0	32-0	36-0	40-0	48-0	56-0	64-0	72-0	80-0	88-0	96-0	104-0
6x 9	4-6	9-0	13-6	18-0	22-6	27-0	31-6	36-0	40-6	45-0	54-0	63-0	72-0	81-0	90-0	99-0	108-0	117-0
6x 10	5-0	10-0	15-0	20-0	25-0	30-0	35-0	40-0	45-0	50-0	60-0	70-0	80-0	90-0	100-0	110-0	120-0	130-0
6x 10	5-6	11-0	16-6	22-0	27-6	33-0	38-6	44-0	49-6	55-0	66-0	77-0	88-0	99-0	110-0	121-0	132-0	143-0
6x 12	6-0	12-0	18-0	24-0	30-0	36-0	42-0	48-0	54-6	60-0	72-0	84-0	96-0	108-0	120-0	132-0	144-0	156-0
6x 13	6-6	13-0	19-6	26-0	32-6	39-0	45-6	52-0	58-6	65-0	78-0	91-0	104-0	117-0	130-0	143-0	156-0	169-0
6x 14	7-0	14-0	21-0	28-0	35-0	42-0	49-0	56-0	63-0	70-0	84-0	98-0	112-0	126-0	140-0	154-0	168-0	182-0
6x 15	7-6	15-0	22-6	30-0	37-6	45-0	52-6	60-0	67-6	75-0	90-0	105-0	120-0	135-0	150-0	165-0	180-0	195-0
6x 16	8-0	16-0	24-0	32-0	40-0	48-0	56-0	64-0	72-0	80-0	96-0	112-0	128-0	144-0	160-0	176-0	192-0	208-0
6x 17	8-6	17-0	25-6	34-0	42-6	51-0	59-6	68-0	76-6	85-0	102-0	119-0	136-0	153-0	170-0	187-0	204-0	221-0
6x 18	9-0	18-0	27-0	36-0	45-0	54-0	63-0	72-0	81-0	90-0	108-0	126-0	144-0	162-0	180-0	198-0	216-0	234-0
6x 19	9-6	19-0	28-6	38-0	47-6	57-0	66-6	76-0	85-6	95-0	114-0	133-0	152-0	171-0	190-0	209-0	228-0	247-0
6x 20	10-0	20-0	30-0	40-0	50-0	60-0	70-0	80-0	90-0	100-0	120-0	140-0	160-0	180-0	200-0	220-0	240-0	260-0
6x 21	10-6	21-0	31-6	42-0	52-6	63-0	73-6	84-0	94-6	105-0	126-0	147-0	168-0	189-0	210-0	231-0	252-0	273-0
6x 22	11-0	22-0	33-0	44-0	55-0	66-0	77-0	88-0	99-0	110-0	132-0	154-0	176-0	198-0	220-0	242-0	264-0	286-0
6x 23	11-6	23-0	34-6	46-0	57-6	69-0	80-6	92-0	103-6	115-0	138-0	161-0	184-0	207-0	230-0	253-0	276-0	299-0
6x 24	12-0	24-0	36-0	48-0	60-0	72-0	84-0	96-0	108-0	120-0	144-0	168-0	192-0	216-0	240-0	264-0	288-0	312-0

TABLE NO. 12.

LUMBER TABLES

LENGTH IN FEET (1x7 INCHES TO 7x24 INCHES)

SIZES IN INCHES	FEET 1	FEET 2	FEET 3	FEET 4	FEET 5	FEET 6	FEET 7	FEET 8	FEET 9	FEET 10	FEET 12	FEET 14	FEET 16	FEET 18	FEET 20	FEET 22	FEET 24	FEET 26
	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.
7x7	4-8	8-2	12-3	16-4	20-5	24-6	28-7	32-8	36-9	40-10	49-0	57-2	65-4	73-6	81-8	89-10	98-0	106-2
7x8	5-3	9-4	14-0	18-8	23-4	28-0	32-8	37-4	42-0	46-8	56-0	65-4	74-8	84-0	93-4	102-8	112-0	121-4
7x9	5-10	10-8	15-9	21-0	26-3	31-6	36-9	42-0	47-3	52-6	63-0	73-6	84-0	94-6	105-0	115-6	126-0	136-6
7x10	6-5	11-8	17-6	23-8	29-2	35-0	40-10	46-8	52-6	58-4	70-0	81-8	93-4	105-0	116-8	128-4	140-0	151-8
7x11	7-0	12-10	19-3	25-8	32-1	38-6	44-11	51-4	57-9	64-2	77-0	89-10	102-8	115-6	128-4	141-2	154-0	166-10
7x12	7-7	13-0	21-0	28-0	35-0	42-0	49-0	56-0	63-0	70-0	84-0	98-0	112-0	126-0	140-0	154-0	168-0	182-0
7x13	8-2	13-6	22-9	30-4	37-11	45-6	53-1	60-8	68-3	75-10	91-0	106-2	121-4	136-6	151-8	166-10	182-0	197-2
7x14	8-9	14-4	24-6	32-8	40-10	49-0	57-2	65-4	73-6	81-8	98-0	114-4	130-8	147-0	163-4	179-8	196-0	212-4
7x15	9-4	15-0	26-3	35-0	43-9	52-6	61-3	70-0	78-9	87-6	105-0	122-6	140-0	157-6	175-0	192-0	210-0	227-6
7x16	9-11	15-10	29-9	39-8	49-7	59-6	69-5	79-4	89-3	99-2	119-0	138-10	158-8	178-6	198-4	218-2	238-0	257-10
7x17	10-6	16-0	31-6	42-0	52-6	63-0	73-6	84-0	94-6	105-0	126-0	147-0	168-0	189-0	210-0	231-0	252-0	273-0
7x18	11-1	16-10	33-3	44-4	55-5	66-6	77-7	88-8	99-9	110-10	133-0	155-2	177-4	199-6	221-8	243-10	266-0	288-2
7x19	11-8	17-4	35-0	46-8	58-4	70-0	81-8	93-4	105-0	116-8	140-0	163-4	186-8	210-0	233-4	256-8	280-0	303-4
7x20	12-3	18-0	36-9	49-0	61-3	73-6	85-9	98-0	110-10	122-6	147-0	171-4	196-0	220-6	245-0	269-6	294-0	318-6
7x21	12-10	18-6	38-6	51-4	64-2	77-0	89-10	102-8	115-6	128-4	154-0	179-8	205-4	231-0	256-8	282-4	308-0	333-8
7x22	13-5	19-2	40-3	53-8	67-1	80-6	93-11	107-4	120-9	134-2	161-0	187-10	214-8	241-6	268-4	295-2	322-0	348-10
7x23	14-0	20-0	42-0	56-0	70-0	84-0	98-10	112-0	126-0	140-0	168-0	196-0	224-0	252-0	280-0	308-0	336-0	364-0
7x24																		

TABLE No. 13.

LUMBER TABLES.

LENGTH IN FEET (8x8 INCHES TO 8x24 INCHES)

SIZES IN INCHES	FEET 1	FEET 2	FEET 3	FEET 4	FEET 5	FEET 6	FEET 7	FEET 8	FEET 9	FEET 10	FEET 12	FEET 14	FEET 16	FEET 18	FEET 20	FEET 22	FEET 24	FEET 26
	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.
8x 8.....	5-4	10-8	16-0	21-4	26-8	32-0	37-4	42-8	48-0	53-4	64-0	74-8	85-4	96-0	106-8	117-4	128-0	138-8
8x 9.....	6-0	12-0	18-0	24-0	30-0	36-0	42-0	48-0	54-0	60-0	72-0	84-0	96-0	108-0	120-0	132-0	144-0	156-0
8x10.....	6-8	13-4	20-0	26-8	33-4	40-0	46-8	53-4	60-0	66-8	80-0	93-4	106-8	120-0	133-4	146-8	160-0	173-4
8x11.....	7-4	14-8	22-0	29-4	36-8	44-0	51-4	58-8	66-0	73-4	88-0	102-8	117-4	132-0	146-8	161-4	176-0	190-8
8x12.....	8-0	16-0	24-0	32-0	40-0	48-0	56-0	64-0	72-0	80-0	96-0	112-0	128-0	144-0	160-0	176-0	192-0	208-0
8x13.....	8-8	17-4	26-0	34-8	43-4	52-0	60-8	69-4	78-0	86-8	104-0	121-4	138-8	156-0	173-4	190-8	208-0	225-4
8x14.....	9-4	18-8	28-0	37-4	46-8	56-0	65-4	74-8	84-0	93-4	112-0	130-8	149-4	168-0	186-8	205-4	224-0	242-8
8x15.....	10-0	20-0	30-0	40-0	50-0	60-0	70-0	80-0	90-0	100-0	120-0	140-0	160-0	180-0	200-0	220-0	240-0	260-0
8x16.....	10-8	21-4	32-0	42-8	53-4	64-0	74-8	85-4	96-0	106-8	128-0	149-4	170-8	192-0	213-4	234-8	256-0	277-4
8x17.....	11-4	22-8	34-0	45-4	56-8	68-0	79-4	90-8	102-0	113-4	136-0	158-8	181-4	204-0	226-8	249-4	272-0	294-8
8x18.....	12-0	24-0	36-0	48-0	60-0	72-0	84-0	96-0	108-0	120-0	144-0	168-0	192-0	216-0	240-0	264-0	288-0	312-0
8x19.....	12-8	25-4	38-0	50-8	63-4	76-0	88-8	101-4	114-0	126-8	152-0	177-4	202-8	228-0	253-4	278-8	304-0	329-4
8x20.....	13-4	26-8	40-0	53-4	66-8	80-0	93-4	106-8	120-0	133-4	160-0	186-8	213-4	240-0	266-8	293-4	320-0	346-8
8x21.....	14-0	28-0	42-0	56-0	70-0	84-0	98-0	112-0	126-0	140-0	168-0	196-0	224-0	252-0	280-0	308-0	336-0	364-0
8x22.....	14-8	29-4	44-0	58-8	73-4	88-0	102-8	117-4	132-0	146-8	176-0	205-4	234-8	264-0	293-4	322-8	352-0	381-4
8x23.....	15-4	30-8	46-0	61-4	76-8	92-0	107-4	122-8	138-0	153-4	184-0	214-8	245-4	276-0	306-8	337-4	368-0	398-8
8x24.....	16-0	32-0	48-0	64-0	80-0	96-0	112-0	128-0	144-0	160-0	192-0	224-0	256-0	288-0	320-0	352-0	384-0	416-0

TABLE No. 14.

LUMBER TABLES

LENGTH IN FEET (9x9 INCHES TO 9x24 INCHES)

SIZES IN INCHES	FEET 1	FEET 2	FEET 3	FEET 4	FEET 5	FEET 6	FEET 7	FEET 8	FEET 9	FEET 10	FEET 12	FEET 14	FEET 16	FEET 18	FEET 20	FEET 22	FEET 24	FEET 26
	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.
9x 9.....	6-9	13-6	20-3	27-0	33-9	40-6	47-3	54-0	60-9	67-6	81-0	94-6	108-0	121-6	135-0	148-6	162-0	175-6
9x10.....	7-6	15-0	22-6	30-0	37-6	45-0	52-6	60-0	67-6	75-0	90-0	105-0	120-0	135-0	150-0	165-0	180-0	195-0
9x11.....	8-3	16-6	24-9	33-0	41-3	49-6	57-9	66-0	74-3	82-6	99-0	115-6	132-0	148-6	165-0	181-6	198-0	214-6
9x12.....	9-0	18-0	27-0	36-0	45-0	54-0	63-0	72-0	81-0	90-0	108-0	126-0	144-0	162-0	180-0	198-0	216-0	234-0
9x13.....	9-9	19-6	29-3	39-0	48-9	58-6	68-3	78-0	87-9	97-6	117-0	136-6	156-0	175-6	195-0	214-6	234-0	253-6
9x14.....	10-6	21-0	31-6	42-0	52-6	63-0	73-6	84-0	94-6	105-0	126-0	147-0	168-0	189-0	210-0	231-0	252-0	273-0
9x15.....	11-3	22-6	33-9	45-0	56-3	67-6	78-9	90-0	101-3	112-6	135-0	157-0	180-0	202-0	225-0	247-0	270-0	292-6
9x16.....	12-0	24-0	36-0	48-0	60-0	72-0	84-0	96-0	108-0	120-0	144-0	168-0	192-0	216-0	240-0	264-0	288-0	312-0
9x17.....	12-9	25-6	38-3	51-0	63-9	76-6	89-3	102-0	114-9	127-6	153-0	178-0	204-0	229-0	255-0	280-0	306-0	331-0
9x18.....	13-6	27-0	40-6	54-0	67-6	81-0	94-6	108-0	121-6	135-0	162-0	189-0	216-0	243-0	270-0	297-0	324-0	351-0
9x19.....	14-3	28-6	42-9	57-0	71-3	85-6	99-9	114-0	128-3	142-6	171-0	199-0	228-0	256-0	285-0	313-6	342-0	370-6
9x20.....	15-0	30-0	45-0	60-0	75-0	90-0	105-0	120-0	135-0	150-0	180-0	210-0	240-0	270-0	300-0	330-0	360-0	390-0
9x21.....	15-9	31-6	47-3	63-0	78-9	94-6	110-3	126-0	141-9	157-6	189-0	220-0	252-0	283-6	315-0	346-6	378-0	409-6
9x22.....	16-6	33-0	49-6	66-0	82-6	99-0	115-6	132-0	148-6	165-0	198-0	231-0	264-0	297-0	330-0	363-0	396-0	429-0
9x23.....	17-3	34-6	51-9	69-0	86-3	103-6	120-9	138-0	155-3	172-6	207-0	241-6	276-0	310-6	345-0	379-6	414-0	448-6
9x24.....	18-0	36-0	54-0	72-0	90-0	108-0	126-0	144-0	162-0	180-0	216-0	252-0	288-0	324-0	360-0	396-0	432-0	468-0

TABLE NO. 15.

LUMBER TABLES
LENGTH IN FEET (10x10 INCHES TO 10x24 INCHES)

SIZES IN INCHES	FEET 1		FEET 2		FEET 3		FEET 4		FEET 5		FEET 6		FEET 7		FEET 8		FEET 9		FEET 10		FEET 12		FEET 14		FEET 16		FEET 18		FEET 20		FEET 22		FEET 24		FEET 26	
	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.
10x10.....	8-4	16-8	25-0	33-4	41-8	50-0	58-4	66-8	75-0	83-4	100-0	116-8	133-4	150-0	166-8	183-4	200-8	216-8	233-4	250-0	266-8	283-4	300-0	316-8	333-4	350-0	366-8	383-4	400-0	416-8	433-4	450-0	466-8	483-4	500-0	516-8
10x11.....	9-2	18-4	27-6	36-8	45-10	55-0	64-2	73-4	82-6	91-8	110-0	128-4	146-8	165-0	183-4	201-8	220-0	238-4	256-8	275-0	293-4	311-8	330-0	348-4	366-8	385-0	403-4	421-8	440-0	458-4	476-8	494-2	512-6	530-0	548-4	
10x12.....	10-0	20-0	30-0	40-0	50-0	60-0	70-0	80-0	90-0	100-0	120-0	140-0	160-0	180-0	200-0	220-0	240-0	260-0	280-0	300-0	320-0	340-0	360-0	380-0	400-0	420-0	440-0	460-0	480-0	500-0	520-0	540-0	560-0	580-0	600-0	
10x13.....	10-10	21-8	32-6	43-4	54-2	65-0	75-10	86-8	97-6	108-4	130-0	151-8	173-4	195-0	216-8	238-4	260-0	281-8	303-4	325-0	346-8	368-4	390-0	411-8	433-4	455-0	476-8	498-4	520-0	541-8	563-4	585-0	606-8	628-4		
10x14.....	11-8	23-4	35-0	46-8	58-4	70-0	81-8	93-4	105-0	116-8	140-0	163-4	186-8	210-0	233-4	256-8	280-0	303-4	326-8	350-0	373-4	396-8	420-0	443-4	466-8	490-0	513-4	536-8	560-0	583-4	606-8	630-0	653-4	676-8	700-0	
10x15.....	12-6	25-0	37-6	50-0	62-4	75-0	87-6	100-0	112-6	125-0	150-0	175-0	200-0	225-0	250-0	275-0	300-0	325-0	350-0	375-0	400-0	425-0	450-0	475-0	500-0	525-0	550-0	575-0	600-0	625-0	650-0	675-0	700-0	725-0		
10x16.....	13-4	26-8	40-0	53-4	66-8	80-0	93-4	106-8	120-0	133-4	160-0	186-8	213-4	240-0	266-8	293-4	320-0	346-8	373-4	400-0	426-8	453-4	480-0	506-8	533-4	560-0	586-8	613-4	640-0	666-8	693-4	720-0	746-8	773-4		
10x17.....	14-2	28-4	42-6	56-8	70-10	85-0	99-2	113-4	127-6	141-8	170-0	198-4	226-8	255-0	283-4	311-8	340-0	368-4	396-8	425-0	453-4	481-8	510-0	538-4	566-8	595-0	623-4	651-8	680-0	708-4	736-8	765-0	793-4	821-8		
10x18.....	15-0	30-0	45-0	60-0	75-0	90-0	105-0	120-0	135-0	150-0	180-0	210-0	240-0	270-0	300-0	330-0	360-0	390-0	420-0	450-0	480-0	510-0	540-0	570-0	600-0	630-0	660-0	690-0	720-0	750-0	780-0	810-0	840-0	870-0		
10x19.....	15-10	31-8	47-6	63-4	79-2	95-0	110-10	126-8	142-6	158-4	190-0	221-8	253-4	285-0	316-8	348-4	380-0	411-8	443-4	475-0	506-8	538-4	570-0	601-8	633-4	665-0	696-8	728-4	760-0	791-8	823-4	855-0	886-8	918-4		
10x20.....	16-8	33-4	50-0	66-8	83-4	100-0	116-8	133-4	150-0	166-8	200-0	233-4	266-8	300-0	333-4	366-8	400-0	433-4	466-8	500-0	533-4	566-8	600-0	633-4	666-8	700-0	733-4	766-8	800-0	833-4	866-8	900-0	933-4	966-8	1000-0	
10x21.....	17-6	35-0	52-6	70-0	87-6	105-0	122-6	140-0	157-6	175-0	210-0	245-0	280-0	315-0	350-0	385-0	420-0	455-0	490-0	525-0	560-0	595-0	630-0	665-0	700-0	735-0	770-0	805-0	840-0	875-0	910-0	945-0	980-0	1015-0		
10x22.....	18-4	36-8	55-0	73-4	91-8	110-0	128-4	146-8	165-0	183-4	220-0	256-8	293-4	330-0	366-8	403-4	440-0	476-8	513-4	550-0	586-8	623-4	660-0	696-8	733-4	770-0	806-8	843-4	880-0	916-8	953-4	990-0	1026-8	1063-4		
10x23.....	19-2	38-4	57-6	76-8	95-10	115-0	134-2	153-4	172-6	191-8	230-0	268-4	306-8	345-0	383-4	421-8	460-0	498-4	536-8	575-0	613-4	651-8	690-0	728-4	766-8	805-0	843-4	881-8	920-0	958-4	996-8	1035-0	1073-4	1111-8		
10x24.....	20-0	40-0	60-0	80-0	100-0	120-0	140-0	160-0	180-0	200-0	240-0	280-0	320-0	360-0	400-0	440-0	480-0	520-0	560-0	600-0	640-0	680-0	720-0	760-0	800-0	840-0	880-0	920-0	960-0	1000-0	1040-0	1080-0	1120-0	1160-0		

TABLE NO. 16.

LUMBER TABLES
LENGTH IN FEET (11x11 INCHES TO 11x24 INCHES)

SIZES IN INCHES	FEET 1		FEET 2		FEET 3		FEET 4		FEET 5		FEET 6		FEET 7		FEET 8		FEET 9		FEET 10		FEET 12		FEET 14		FEET 16		FEET 18		FEET 20		FEET 22		FEET 24		FEET 26	
	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.	FT.	IN.
11x11.....	10-1	20-2	30-3	40-4	50-5	60-6	70-7	80-8	90-9	100-10	121-0	141-2	161-4	181-6	201-8	221-10	242-0	262-2	282-4	302-6	322-8	342-10	362-12	382-14	402-16	422-18	442-20	462-22	482-24	502-26	522-28	542-30	562-32	582-34	602-36	
11x12.....	11-0	22-0	33-0	44-0	55-0	66-0	77-0	88-0	99-0	110-0	132-0	154-0	176-0	198-0	220-0	242-0	264-0	286-0	308-0	330-0	352-0	374-0	396-0	418-0	440-0	462-0	484-0	506-0	528-0	550-0	572-0	594-0	616-0	638-0	660-0	
11x13.....	11-11	23-10	35-9	47-8	59-7	71-6	83-5	95-4	107-3	119-2	143-0	166-10	190-8	214-6	238-4	262-2	286-0	309-10	333-8	357-6	381-4	405-2	429-0	453-8	477-6	501-4	525-2	549-0	573-8	597-6	621-4	645-2	669-0	693-8		
11x14.....	12-0	25-8	38-6	51-4	64-2	77-0	89-8	102-6	115-4	128-2	154-0	179-8	205-6	231-4	256-8	282-4	308-0	333-8	359-4	385-0	410-6	436-2	461-8	487-4	513-0	538-6	564-2	589-8	615-4	641-0	666-6	692-2	717-8	743-4		
11x15.....	13-0	27-6	41-4	55-2	68-9	82-6	96-3	110-0	123-7	137-4	165-0	192-6	220-2	247-8	275-0	302-6	330-2	357-8	385-4	413-0	440-6	468-2	495-8	523-4	551-0	578-6	606-2	633-8	661-4	689-0	716-6	744-2	771-8	799-4		
11x16.....	14-0	29-4	43-8	58-2	72-6	87-0	101-4	115-8	130-2	144-6	176-0	208-4	240-8	273-2	305-6	338-0	370-4	402-8	435-2	467-6	500-0	532-4	564-8	597-2	629-6	662-0	694-4	726-8	759-2	791-6	824-0	856-4	888-8	921-2		
11x17.....	15-0	31-2	46-0	60-8	75-6	90-4	105-2	120-0	134-8	149-6	182-0	214-4	246-8	279-2	311-6	344-0	376-4	408-8	441-2	473-6	506-0	538-4	570-8	603-2	635-6	668-0	700-4	732-8	765-2	797-6	830-0	862-4	894-8	927-2		
11x18.....	16-0	33-0	49-0	64-0	79-0	94-0	109-0	124-0	139-0	154-0	188-0	222-0	256-0	290-0	324-0	358-0	392-0	426-0	460-0	494-0	528-0	562-0	596-0	630-0	664-0	698-0	732-0	766-0	800-0	834-0	868-0	902-0	936-0	970-0		
11x19.....	17-0	35-0	52-0	69-0	86-0	103-0	120-0	137-0	154-0	171-0	206-0	241-0	276-0	311-0	346-0	381-0	416-0	451-0	486-0	521-0	556-0	591-0	626-0	661-0	696-0	731-0	766-0	801-0	836-0	871-0	906-0	941-0	976-0	1011-0		
11x20.....	18-0	36-8	55-0	73-4	91-8	110-0	128-4	146-8	165-0	183-4	220-0	256-8	293-4	330-0	366-8	403-4	440-0	476-8	513-4	550-0	586-8	623-4	660-0	696-8	733-4	770-0	806-8	843-4	880-0	916-8	953-4	990-0	1026-8	1063-4		
11x21.....	19-0	38-4	57-6	76-8	95-10	115-0	134-2	153-4	172-6	191-8	230-0	268-4	306-8	345-0	383-4	421-8	460-0	498-4	536-8	575-0	613-4	651-8	690-0	728-4	766-8	805-0	843-4	881-8	920-0	958-4	996-8	1035-0	1073-4	1111-8		
11x22.....	20-0	40-0	60-0	80-0	100-0	120-0	140-0	160-0	180-0	200-0	240-0	280-0	320-0	360-0	400-0	440-0	480-0	520-0	560-0	600-0	640-0	680-0	720-0	760-0	800-0	840-0	880-0	920-0	960-0	1000-0	1040-0	1080-0	1120-0	1160-0		
11x23.....	21-0	42-0	63-3	84-6	105-9	126-6	147-9	169-2	190-5	211-8	253-0	295-2	337-4	379-6	421-8	463-0	505-2	547-4	589-6	631-8	674-0	716-2	758-4	800-6	842-8	885-0	927-2	969-4	1011-6	1053-8	1096-0	1138-2	1180-4	1222-6		
11x24.....	22-0	44-0	66-0	88-0	110-0	132-0	154-0	176-0	198-0	220-0	264-0	308-0	352-0	396-0	440-0	484-0	528-0	572-0	616-0	660-0	704-0	748-0	792-0	836-0	880-0	924-0	968-0	1012-0	1056-0	1100-0	1144-0	1188-0	1232-0	1276-0		

TABLE No. 17.

LUMBER TABLES
LENGTH IN FEET (12 INCHES TO 124 INCHES)

SIZES IN INCHES	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26
	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.
12x12	12-0	24-0	36-0	48-0	60-0	72-0	84-0	96-0	108-0	120-0	144-0	168-0	192-0	216-0	240-0	264-0	288-0	312-0
12x13	12-0	28-0	36-0	44-0	52-0	60-0	68-0	76-0	84-0	92-0	116-0	140-0	164-0	188-0	212-0	236-0	260-0	284-0
12x14	12-0	28-0	36-0	44-0	52-0	60-0	68-0	76-0	84-0	92-0	116-0	140-0	164-0	188-0	212-0	236-0	260-0	284-0
12x15	12-0	28-0	36-0	44-0	52-0	60-0	68-0	76-0	84-0	92-0	116-0	140-0	164-0	188-0	212-0	236-0	260-0	284-0
12x16	12-0	28-0	36-0	44-0	52-0	60-0	68-0	76-0	84-0	92-0	116-0	140-0	164-0	188-0	212-0	236-0	260-0	284-0
12x17	12-0	28-0	36-0	44-0	52-0	60-0	68-0	76-0	84-0	92-0	116-0	140-0	164-0	188-0	212-0	236-0	260-0	284-0
12x18	12-0	28-0	36-0	44-0	52-0	60-0	68-0	76-0	84-0	92-0	116-0	140-0	164-0	188-0	212-0	236-0	260-0	284-0
12x19	12-0	28-0	36-0	44-0	52-0	60-0	68-0	76-0	84-0	92-0	116-0	140-0	164-0	188-0	212-0	236-0	260-0	284-0
12x20	12-0	28-0	36-0	44-0	52-0	60-0	68-0	76-0	84-0	92-0	116-0	140-0	164-0	188-0	212-0	236-0	260-0	284-0
12x21	12-0	28-0	36-0	44-0	52-0	60-0	68-0	76-0	84-0	92-0	116-0	140-0	164-0	188-0	212-0	236-0	260-0	284-0
12x22	12-0	28-0	36-0	44-0	52-0	60-0	68-0	76-0	84-0	92-0	116-0	140-0	164-0	188-0	212-0	236-0	260-0	284-0
12x23	12-0	28-0	36-0	44-0	52-0	60-0	68-0	76-0	84-0	92-0	116-0	140-0	164-0	188-0	212-0	236-0	260-0	284-0
12x24	12-0	28-0	36-0	44-0	52-0	60-0	68-0	76-0	84-0	92-0	116-0	140-0	164-0	188-0	212-0	236-0	260-0	284-0

TABLE No. 18.

LUMBER TABLES

LENGTH IN FEET (13x13 INCHES TO 13x24 INCHES)

SIZES IN INCHES	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26
	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.
13x13	14-1	28-2	42-3	56-4	70-5	84-6	98-7	112-8	126-9	140-10	169-0	197-2	225-4	253-6	281-8	309-10	338-0	366-2
13x14	15-2	30-4	45-6	60-8	75-10	91-0	106-2	121-4	136-6	151-8	182-0	212-2	242-4	272-6	302-8	333-0	364-0	394-2
13x15	16-3	32-6	48-9	65-0	81-3	97-6	113-9	130-0	146-3	162-6	195-0	227-2	260-0	292-6	325-0	357-6	390-0	422-6
13x16	17-4	34-8	52-0	69-4	86-8	104-0	121-4	138-8	156-0	173-4	208-0	242-8	277-4	312-0	346-8	381-6	416-0	450-8
13x17	18-5	36-10	55-3	73-8	92-1	110-6	128-11	147-4	165-9	184-2	221-0	257-10	294-8	331-6	368-4	405-2	442-0	478-8
13x18	19-6	39-0	58-6	78-0	97-6	117-0	136-6	156-0	175-6	195-0	234-0	273-0	312-0	351-0	390-0	429-0	468-0	507-0
13x19	20-7	41-2	61-0	82-4	102-11	123-6	144-1	164-8	185-3	205-10	247-0	288-0	329-0	370-0	411-0	452-0	493-0	534-0
13x20	21-8	43-4	65-0	86-8	108-4	130-6	151-8	173-4	195-0	216-6	260-0	303-4	346-8	390-2	433-6	477-0	520-4	563-8
13x21	22-9	45-6	68-3	91-0	113-9	136-6	159-3	182-0	204-9	227-6	273-0	318-0	363-0	408-0	453-0	498-0	543-0	588-0
13x22	23-10	47-8	71-6	95-4	119-2	143-0	166-10	190-8	214-6	238-4	288-0	334-0	380-0	426-0	472-0	518-0	564-0	610-0
13x23	24-11	49-10	74-9	99-8	124-7	149-5	174-3	199-1	223-9	248-7	300-0	348-0	396-0	444-0	492-0	540-0	588-0	636-0
13x24	26-0	52-0	78-0	104-0	130-0	156-0	182-0	208-0	234-0	260-0	314-0	362-0	410-0	458-0	506-0	554-0	602-0	650-0

TABLE No. 19.

LUMBER TABLES

LENGTH IN FEET (4x14 INCHES TO 14x24 INCHES)

SIZES IN INCHES	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26
	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.
14x14.....	16-4	32-8	49-0	65-4	81-8	98-0	114-4	130-8	147-0	163-4	196-0	228-8	261-4	294-0	326-8	359-4	392-0	424-8
14x15.....	17-6	35-0	52-6	70-0	87-6	105-0	122-6	140-0	157-6	175-0	210-0	245-0	280-0	315-0	350-0	385-0	420-0	455-0
14x16.....	18-8	37-4	56-0	74-8	93-4	112-0	130-8	149-4	168-0	186-8	224-0	261-4	298-8	336-0	373-4	410-8	448-0	485-4
14x17.....	19-10	39-8	59-6	79-4	99-2	119-0	138-10	158-8	178-6	198-4	238-0	277-8	317-4	357-0	396-8	436-4	476-0	515-8
14x18.....	21-0	42-0	63-0	84-0	105-0	126-0	147-0	168-0	189-0	210-0	252-0	294-0	336-0	378-0	420-0	462-0	504-0	546-0
14x19.....	22-2	44-4	66-6	88-8	110-10	133-0	155-2	177-4	199-6	221-8	266-0	310-4	354-8	399-0	443-4	487-8	532-0	576-4
14x20.....	23-4	46-8	70-0	93-4	116-8	140-0	163-4	186-8	210-0	233-4	280-0	326-8	373-4	420-0	466-8	513-4	560-0	606-8
14x21.....	24-6	49-0	73-6	98-0	122-6	147-0	171-6	196-0	220-0	245-0	294-0	343-0	392-0	441-0	490-0	539-0	588-0	637-0
14x22.....	25-8	51-4	77-0	102-8	128-4	154-0	179-8	205-4	231-0	256-8	308-0	359-4	410-8	462-0	513-4	564-8	616-0	667-4
14x23.....	26-10	53-8	80-6	107-4	131-2	161-0	187-10	214-8	241-6	268-4	322-0	375-8	429-4	483-0	536-8	590-4	644-0	697-8
14x24.....	28-0	56-0	84-0	112-0	140-0	168-0	196-0	224-0	252-0	280-0	336-0	392-0	448-0	504-0	560-0	616-0	672-0	728-0

TABLE No. 20.

LUMBER TABLES

LENGTH IN FEET (15x15 INCHES TO 15x24 INCHES)

SIZES IN INCHES	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26
	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.
15x15.....	18-9	37-6	56-3	75-0	93-9	112-6	131-3	150-0	168-9	187-6	225-0	262-6	300-0	337-6	375-0	412-6	450-0	487-6
15x16.....	20-0	40-0	60-0	80-0	100-0	120-0	140-0	160-0	180-0	200-0	240-0	280-0	320-0	360-0	400-0	440-0	480-0	520-0
15x17.....	21-3	42-6	63-9	85-0	106-3	127-6	148-9	170-0	191-3	212-6	255-0	297-6	340-0	382-6	425-0	467-6	510-0	552-6
15x18.....	22-6	45-0	67-6	90-0	112-6	135-0	157-6	180-0	202-6	225-0	270-0	315-0	360-0	405-0	450-0	495-0	540-0	585-0
15x19.....	23-9	47-6	71-1	95-0	118-9	142-6	166-3	190-0	213-9	237-6	285-0	332-6	380-0	427-6	475-0	522-6	570-0	617-6
15x20.....	25-0	50-0	75-0	100-0	125-0	150-0	175-0	200-0	225-0	250-0	300-0	350-0	400-0	450-0	500-0	550-0	600-0	650-0
15x21.....	26-3	52-6	78-9	105-0	131-3	157-6	183-9	210-0	236-3	262-6	315-0	367-6	420-0	472-6	525-0	577-6	630-0	682-6
15x22.....	27-6	55-0	82-6	110-0	137-6	165-0	192-6	220-0	247-6	275-0	330-0	385-0	440-0	495-0	550-0	605-0	660-0	715-0
15x23.....	28-9	57-6	86-3	115-0	143-9	172-6	201-3	230-0	258-9	287-6	345-0	402-6	460-0	517-6	575-0	632-6	690-0	747-6
15x24.....	30-0	60-0	90-0	120-0	150-0	180-0	210-0	240-0	270-0	300-0	360-0	420-0	480-0	540-0	600-0	660-0	720-0	780-0

TABLE No. 21.

LUMBER TABLES

LENGTH IN FEET (6x16 INCHES TO 16x24 INCHES)

SIZES IN INCHES	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET
	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26	FT. IN.
16x16.....	21-4	42-8	64-0	85-4	106-8	128-0	149-4	170-8	192-0	213-4	256-0	298-8	341-4	384-0	426-8	469-4	512-0	554-8	FT. IN.
16x17.....	22-8	45-4	68-0	90-8	113-4	136-0	158-8	181-4	204-0	226-8	272-0	317-4	362-8	408-0	453-4	498-8	544-0	589-4	FT. IN.
16x18.....	24-0	48-0	72-0	96-0	120-0	144-0	168-0	192-0	216-0	240-0	288-0	336-0	384-0	432-0	480-0	528-0	576-0	624-0	FT. IN.
16x19.....	25-4	50-8	76-0	101-4	126-8	152-0	177-4	202-8	228-0	253-4	304-0	354-8	405-4	456-0	506-8	557-4	608-0	658-8	FT. IN.
16x20.....	26-8	53-4	80-0	106-8	133-4	160-0	186-8	213-4	240-0	266-8	320-0	373-4	426-8	480-0	533-4	586-8	640-0	693-4	FT. IN.
16x21.....	28-0	56-0	84-0	112-0	140-0	168-0	196-0	224-0	252-0	280-0	336-0	392-0	448-0	504-0	560-0	616-0	672-0	728-0	FT. IN.
16x22.....	29-4	58-8	88-0	117-4	146-8	176-0	205-4	234-8	264-0	293-4	352-0	410-8	469-4	528-0	586-8	645-4	704-0	762-8	FT. IN.
16x23.....	30-8	61-4	92-0	122-8	153-4	184-0	214-8	245-4	276-0	306-8	368-0	429-4	490-8	552-0	613-4	674-8	736-0	797-4	FT. IN.
16x24.....	32-0	64-0	96-0	128-0	160-0	192-0	224-0	256-0	288-0	320-0	384-0	448-0	512-0	576-0	640-0	704-0	768-0	832-0	FT. IN.

TABLE No. 22.

LUMBER TABLES

LENGTH IN FEET (17x17 INCHES TO 17x24 INCHES)

SIZES IN INCHES	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET	FEET
	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26	FT. IN.
17x17.....	24-1	48-2	72-3	96-4	120-5	144-6	168-7	192-8	216-9	240-10	289-0	337-2	395-4	453-6	511-8	569-10	627-2	685-4	FT. IN.
17x18.....	25-6	51-0	76-6	102-0	127-6	153-0	178-6	204-0	229-6	255-0	306-0	357-0	408-0	459-0	510-0	561-0	612-0	663-0	FT. IN.
17x19.....	26-11	53-10	80-9	107-8	134-7	161-6	188-5	215-4	242-3	269-2	323-0	376-10	430-8	484-6	538-4	592-2	646-0	699-10	FT. IN.
17x20.....	28-4	56-8	85-0	113-4	141-8	170-0	198-4	226-8	255-0	283-4	340-0	396-8	453-4	510-0	566-8	623-4	680-0	736-8	FT. IN.
17x21.....	29-9	59-6	89-3	119-0	148-0	178-0	208-0	238-0	267-9	297-6	357-0	416-0	476-0	535-6	595-0	654-0	714-0	773-6	FT. IN.
17x22.....	31-2	62-4	93-6	124-8	155-10	187-0	218-2	249-4	280-6	311-8	374-0	436-0	498-8	561-6	623-4	685-8	748-0	810-4	FT. IN.
17x23.....	32-7	65-2	97-9	130-4	162-11	195-6	228-1	260-8	293-3	325-10	391-0	456-2	521-4	586-6	651-8	716-10	782-0	847-2	FT. IN.
17x24.....	34-0	68-0	102-0	136-0	170-0	204-0	238-0	272-0	306-0	340-0	408-0	476-0	544-0	612-0	680-0	748-0	816-0	884-0	FT. IN.

TABLE No. 23.

LUMBER TABLES
LENGTH IN FEET (18x18 INCHES TO 18x24 INCHES)

SIZES IN INCHES	FEET 1	FEET 2	FEET 3	FEET 4	FEET 5	FEET 6	FEET 7	FEET 8	FEET 9	FEET 10	FEET 12	FEET 14	FEET 16	FEET 18	FEET 20	FEET 22	FEET 24	FEET 26
	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.
18x18.....	27-0	54-0	81-0	108-0	135-0	162-0	189-0	216-0	243-0	270-0	324-0	378-0	432-0	486-0	540-0	594-0	648-0	702-0
18x19.....	28-6	57-0	85-6	114-0	142-6	171-0	199-6	228-0	256-6	285-0	342-0	396-0	456-0	513-0	570-0	627-0	684-0	741-0
18x20.....	30-0	60-0	90-0	120-0	150-0	180-0	210-0	240-0	270-0	300-0	360-0	420-0	480-0	540-0	600-0	660-0	720-0	780-0
18x21.....	31-6	63-0	94-6	126-0	157-6	189-0	220-6	252-0	283-6	315-0	378-0	441-0	504-0	567-0	630-0	693-0	756-0	819-0
18x22.....	33-0	66-0	99-0	132-0	165-0	198-0	231-0	264-0	297-0	330-0	396-0	462-0	528-0	594-0	660-0	726-0	792-0	858-0
18x23.....	34-6	69-0	103-6	138-0	172-6	207-0	241-6	276-0	310-6	345-0	414-0	483-0	552-0	621-0	690-0	759-0	828-0	897-0
18x24.....	36-0	72-0	108-0	144-0	180-0	216-0	252-0	288-0	324-0	360-0	432-0	504-0	576-0	648-0	720-0	792-0	864-0	936-0

TABLE No. 24.

LUMBER TABLES
LENGTH IN FEET (19x19 INCHES TO 19x24 INCHES)

SIZES IN INCHES	FEET 1	FEET 2	FEET 3	FEET 4	FEET 5	FEET 6	FEET 7	FEET 8	FEET 9	FEET 10	FEET 12	FEET 14	FEET 16	FEET 18	FEET 20	FEET 22	FEET 24	FEET 26
	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.	FT.IN.
19x19.....	30-1	60-2	90-3	120-4	150-5	180-6	210-7	240-8	270-9	300-10	361-0	421-0	481-1	541-2	601-3	661-4	722-0	782-2
19x20.....	31-8	63-4	95-0	126-8	158-4	190-0	221-8	253-4	285-0	316-8	380-0	443-4	506-8	570-0	633-4	696-8	760-0	823-4
19x21.....	33-3	66-8	99-9	132-0	166-3	199-6	232-9	266-6	299-3	332-0	396-0	460-0	524-0	588-0	652-0	716-0	780-0	844-6
19x22.....	34-10	68-8	104-6	139-4	174-2	209-0	243-10	278-8	313-6	348-4	418-0	487-8	557-4	627-0	696-8	766-4	836-0	905-8
19x23.....	36-5	72-10	109-3	145-8	182-1	218-6	254-11	291-4	327-9	364-2	437-0	509-10	582-8	655-6	728-4	801-2	874-0	948-10
19x24.....	38-0	76-0	114-0	152-0	190-0	228-0	266-0	304-0	342-0	380-0	456-0	532-0	608-0	684-0	760-0	836-0	912-0	988-0

TABLE No. 24.

LUMBER TABLES

LENGTH IN FEET (20x20 INCHES TO 20x24 INCHES)

SIZES IN INCHES	FEET 1	FEET 2	FEET 3	FEET 4	FEET 5	FEET 6	FEET 7	FEET 8	FEET 9	FEET 10	FEET 12	FEET 14	FEET 16	FEET 18	FEET 20	FEET 22	FEET 24	FEET 26
	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.
20x20.....	33-4	66-8	100-0	133-4	166-8	200-0	233-4	266-8	300-0	333-4	400-0	466-8	533-4	600-0	666-8	733-4	800-0	866-8
20x21.....	35-0	70-0	105-0	140-0	175-0	210-0	245-0	280-0	315-0	350-0	420-0	490-0	560-0	630-0	700-0	770-0	840-0	910-0
20x22.....	36-8	73-4	110-0	146-8	183-4	220-0	256-8	293-4	330-0	366-8	440-0	513-4	586-8	660-0	733-4	806-8	880-0	953-4
20x23.....	38-4	76-8	115-0	153-4	191-8	230-0	268-4	306-8	345-0	383-4	460-0	536-8	613-4	690-0	766-8	843-4	920-0	996-8
20x24.....	40-0	80-0	120-0	160-0	200-0	240-0	280-0	320-0	360-0	400-0	480-0	560-0	640-0	720-0	800-0	880-0	960-0	1040-0

TABLE No. 25.

LUMBER TABLES

LENGTH IN FEET (22x22 INCHES TO 24x24 INCHES)

SIZES IN INCHES	FEET 1	FEET 2	FEET 3	FEET 4	FEET 5	FEET 6	FEET 7	FEET 8	FEET 9	FEET 10	FEET 12	FEET 14	FEET 16	FEET 18	FEET 20	FEET 22	FEET 24	FEET 26
	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.	FT. IN.
22x22.....	40-4	80-8	121-0	161-4	201-8	242-0	282-4	322-8	363-0	403-4	484-0	564-8	645-4	726-0	806-8	887-4	968-0	1048-8
22x23.....	42-2	84-4	126-6	168-8	210-10	253-0	295-2	337-4	379-6	421-8	506-0	590-4	674-8	759-0	843-4	927-8	1012-0	1096-4
22x24.....	44-0	88-0	132-0	176-0	220-0	264-0	308-0	352-0	396-0	440-0	528-0	616-0	704-0	792-0	880-0	968-0	1056-0	1144-0
24x24.....	48-0	96-0	144-0	192-0	240-0	288-0	336-0	384-0	432-0	480-0	576-0	672-0	768-0	864-0	960-0	1056-0	1152-0	1248-0

pieces, second, sizes in thickness and width, then the required lengths and the kind of wood, what grade, etc., as the specifications call for. Then to get the amount of lumber in board measure, find in tables showing sizes in inches on the left hand side on the top line running from left to right shows the length in which column running down to the sizes required shows the feet in board measure.

HOW TO ORDER MILL WORK

Much valuable time can be saved by ordering millwork in the proper way. We should be explicit; do not assume that the mill knows what is wanted without fully explaining what is required.

Always give width first in specifying sizes; this applies to everything.

ORDERS FOR SASH

Should state number of lights in window, size of glass, thickness, whether plain or check rail, glazed or open. If glazed, state single or double strength glass; if not stated, the mill will glaze single strength.

For segment top windows, always if possible, give the radius of segment, otherwise the mill will make the regular radius, which is the width of the opening. For circle head and segment head windows, always state whether they are wanted to finish circle inside and outside, or to finish circle on outside only. When frames are made, give width and height inside of the frame in the circle. If no measurements are given glass not included.

ORDER FOR DOORS

Should state size, thickness, number of panels and quality. If moulded, say if one or two sides, flush or raised moulding, sending a sketch or catalogue, etc.

ORDERS FOR OUTSIDE BLINDS

State the number of lights in window, size of glass, thickness of blinds, stationary or rolling slats. If for segment head windows, give radius.

Doors, blinds and sash, are often called $1\frac{1}{4}$, $1\frac{1}{2}$ and 2 inches thick, which can be made the above thickness perhaps by an extra charge. The regular thicknesses are $1\frac{1}{4}$, $1\frac{1}{2}$ and $1\frac{3}{4}$ inches.

HOW TO ORDER MILLWORK

INSIDE BLINDS. State exact size of opening (outside measure) and thickness, the number of folds and if panels or slats, and where blinds are to be cut, showing sketch, etc., if possible.

ORDERS FOR OUTSIDE DOOR FRAMES

State if for frame or brick buildings; also width and thickness of jambs and whether made with rabbet or stop.

ORDERS FOR WINDOW FRAMES

Other than box frames, state if for plain or check rail sash, with or without ulleys, giving width of jambs for inside door jambs, give the width and thickness of the jamb and whether with rabbet or stops. Window frames and inside door jambs are generally furnished with stops, unless otherwise ordered.

ORDERS FOR STAIRS

When a flight of stairs is wanted, state the height of story from floor to floor, width or height of joist in each story stairs pass, width and run of stairs, the size of cylinder, style of base used in hall; also a sketch showing about the shape of stairs wanted. It is always best to make a full sketch or send a set of drawings showing the style and correct measurements for stair work.

ESTIMATING MILLWORK

It is a custom for contractors to furnish a full set of drawings and specifications to various mills, which generally have a regular mill estimator, who takes off all the millwork and furnishes an itemized list of material which they propose to furnish at a stated price. It is your duty before making up your prices or bid on the work to thoroughly examine these mill lists of material, in order to know if the lists include everything required in millwork, otherwise you perhaps would have to pay for a lot of extra material, as the mill is expected to furnish only what their bill calls for. In some localities, the mills will give what is called a blanket bid, which means they will furnish all millwork required for a building. By so doing requires no list of material.

MILLWORK

Some contractors take off all the items in millwork, furnishing the mill with sheets of drawings showing in detail, the styles, sizes and number of windows, doors, etc., naming so many like this design and so many like that, giving the number of lineal feet of all finish, showing in detail the style, sizes, etc., in fact a full drawing for every piece of work naming the quantity required. This gives the contractor much more labor and expense by so doing, but enables you to purchase the material cheaper, more especially on large structures as office buildings, etc.

GRADES OF SASH, DOORS AND BLINDS

A. A. OIL FINISH Doors must be clear; no white sap admitted; good workmanship.

A. A. OIL FINISH Doors must be clear, with the exception that white sap will be admitted not to exceed twenty-five (25) per cent of the face of anyone piece; workmanship must be good.

A. Doors. Material in a door must be clear with the exception that water stains and small pine knots not exceeding one-fourth ($\frac{1}{4}$) inch in diameter may be admitted. No piece to contain more than two (2) such defects and no door more than five (5) such defects on each side; white sap not considered a defect. Workmanship must be good.

B. Doors. Material in B. Doors may contain knots, not to exceed one (1) inch in diameter and Blue sap showing on both sides not to exceed fifty (50) per cent in any one piece of the door and gum spots showing on one (1) side of a piece only and other slight defects shall not exceed ten (10) in number on each side, also each White Pine stile bottom and lock rail must contain at least one (1) and not to exceed three (3) such defects. Plugs admitted and not regarded as a defect; slight defects in workmanship admitted.

C. Doors. Material in C. Doors may contain all stained sap and small worm holes and fine shake, also knots not exceeding one and three-fourths ($1\frac{3}{4}$) inches in diameter. Twenty (20) defects may be allowed on each side; also slight defects in workmanship.

MILLWORK

GRADES OF SASH, DOORS AND BLINDS

D. Doors are what we may term a "Cull Door" which contains large coarse knots and may contain t, worm holes, shake and other serious defects.

A standard door may be through tenon, blind tenon or doweled.

WINDOWS

Check Rail Windows may contain two (2) knots $\frac{3}{8}$ inch in diameter. In each piece of a window, white blue sap may be admitted in any one window; workmanship must be good. Plain rail windows and sash may contain blue sap and small knots.

BLINDS

No. 1 Outside Blinds must be made of clear lumber, except that small, sound pin knots, water stain and white sap may be admitted. Workmanship must be good.

The term "window" means two pieces and upper and lower sash, made with either plain or check rail.
 "A pair of blinds" indicates two pieces. "A blind" indicates one piece. "A set of sash or blinds" indicates more than two pieces.

SKYLIGHT AND FLOOR GLASS

One (1) cubic foot weighs 156 pounds.

WEIGHT PER SQUARE FOOT

Thickness.....	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1 Inch
Weight Per Square Foot.....	1.62	2.43	3.25	4.88	6.50	8.13	9.75	19 Lbs.

SASH WEIGHTS

Required for the following windows:

Size of Glass	No. of Lights	Thick-ness of Sash	Weights to Sash	Weights to Window	Weights per Pound
10x14.....	12	1 $\frac{3}{8}$ In.	2	4	6
10x16.....	8	1 $\frac{3}{8}$ In.	2	4	6
12x14.....	8	1 $\frac{3}{8}$ In.	2	4	6
10x15.....	12	1 $\frac{3}{8}$ In.	2	4	7
10x16.....	12	1 $\frac{3}{8}$ In.	2	4	7
10x18.....	8	1 $\frac{3}{8}$ In.	2	4	7
10x20.....	8	1 $\frac{3}{8}$ In.	2	4	7
12x15.....	8	1 $\frac{3}{8}$ In.	2	4	7
12x16.....	8	1 $\frac{3}{8}$ In.	2	4	7
14x16.....	8	1 $\frac{3}{8}$ In.	2	4	7
10x18.....	12	1 $\frac{3}{8}$ In.	2	4	8
12x18.....	8	1 $\frac{3}{8}$ In.	2	4	8
12x20.....	8	1 $\frac{3}{8}$ In.	2	4	8
12x22.....	8	1 $\frac{3}{8}$ In.	2	4	8
14x18.....	8	1 $\frac{3}{8}$ In.	2	4	8
14x20.....	8	1 $\frac{3}{8}$ In.	2	4	8
12x36.....	4	1 $\frac{3}{8}$ In.	2	4	8
10x20.....	12	1 $\frac{3}{8}$ In.	2	4	9
12x24.....	8	1 $\frac{3}{8}$ In.	2	4	9
15x22.....	8	1 $\frac{3}{8}$ In.	2	4	9
12x40.....	4	1 $\frac{3}{8}$ In.	2	4	9
12x44.....	4	1 $\frac{3}{8}$ In.	2	4	9
14x36.....	4	1 $\frac{3}{8}$ In.	2	4	9
10x22.....	12	1 $\frac{3}{8}$ In.	2	4	10
10x24.....	12	1 $\frac{3}{8}$ In.	2	4	10
12x18.....	12	1 $\frac{3}{8}$ In.	2	4	10
12x20.....	12	1 $\frac{3}{8}$ In.	2	4	10
14x22.....	8	1 $\frac{3}{8}$ In.	2	4	10
14x24.....	8	1 $\frac{3}{8}$ In.	2	4	10
14x40.....	4	1 $\frac{3}{8}$ In.	2	4	10
14x44.....	4	1 $\frac{3}{8}$ In.	2	4	10
12x22.....	12	1 $\frac{3}{8}$ In.	2	4	11
15x48.....	4	1 $\frac{3}{4}$ In.	2	4	12

Ordinary Stock Sash Weights, giving weight, diameter and lengths:

Weight	Diameter	Length of Weight	Weight	Diameter	Length of Weight
3 Pounds	1 3/8 Inches	8 1/4 Inches	11 Pounds	1 5/8 Inches	21 1/2 Inches
3 1/2 Pounds	1 3/8 Inches	9 1/2 Inches	11 1/2 Pounds	1 1/4 Inches	19 Inches
4 Pounds	1 3/8 Inches	10 3/4 Inches	12 Pounds	1 3/4 Inches	19 3/4 Inches
4 1/2 Pounds	1 3/8 Inches	12 Inches	13 Pounds	1 3/4 Inches	21 1/2 Inches
5 Pounds	1 1/2 Inches	11 3/4 Inches	14 Pounds	1 3/4 Inches	23 Inches
5 1/2 Pounds	1 1/2 Inches	12 1/4 Inches	15 Pounds	1 3/4 Inches	24 1/2 Inches
6 Pounds	1 1/2 Inches	13 1/4 Inches	16 Pounds	2 Inches	21 1/2 Inches
6 1/2 Pounds	1 1/2 Inches	14 1/2 Inches	17 Pounds	2 Inches	23 Inches
7 Pounds	1 1/2 Inches	15 1/4 Inches	18 Pounds	2 Inches	24 1/4 Inches
7 1/2 Pounds	1 1/2 Inches	16 1/2 Inches	19 Pounds	2 Inches	25 1/2 Inches
8 Pounds	1 1/2 Inches	17 3/4 Inches	20 Pounds	2 1/4 Inches	22 Inches
8 1/2 Pounds	1 5/8 Inches	16 1/2 Inches	21 Pounds	2 1/4 Inches	23 Inches
9 Pounds	1 5/8 Inches	17 1/2 Inches	22 Pounds	2 1/4 Inches	24 Inches
9 1/2 Pounds	1 5/8 Inches	18 1/2 Inches	23 Pounds	2 1/4 Inches	25 Inches
10 Pounds	1 5/8 Inches	19 1/2 Inches	24 Pounds	2 1/4 Inches	26 Inches
10 1/2 Pounds	1 5/8 Inches	20 1/2 Inches	25 Pounds	2 1/4 Inches	27 Inches

LEAD SASH WEIGHTS

Size	WEIGHT PER FOOT LINEAL			Size	WEIGHT PER FOOT LINEAL				
	Round Weights		Square Weights		Round Weights		Square Weights		
	Pounds	Ozs.	Pounds		Ozs.	Pounds	Ozs.		
1 Inch.....	3	12	4	12	2 3/4 Inches.....	28	12	37	4
1 1/4 Inches.....	6	..	7	8	3 Inches.....	35	..	43	8
1 1/2 Inches..	8	4	10	14	3 1/4 Inches.....	20	12	52	..
1 3/4 Inches.....	11	8	15	4	3 1/2 Inches.....	47	8	60	8
2 Inches.....	16	..	19	..	3 3/4 Inches.....	54	4	69	4
2 1/4 Inches.....	18	8	24	..	4 Inches.....	62	..	79	..
2 1/2 Inches.....	23	8	30	..	5 Inches.....	.....	.....	148	..

SASH WEIGHTS

Required for two (2) light windows:

SIZE OF GLASS	SASH WEIGHTS			
	Single Strength Glass	Double Strength Glass	Single Strength Glass	Double Strength Glass
20x28 Inches.....	18 Pounds	22 Pounds	4½ Pounds	5½ Pounds
20x30 Inches.....	18 Pounds	22 Pounds	4½ Pounds	5½ Pounds
20x32 Inches.....	20 Pounds	24 Pounds	5 Pounds	6 Pounds
20x34 Inches.....	22 Pounds	26 Pounds	5½ Pounds	6½ Pounds
20x36 Inches.....	22 Pounds	26 Pounds	5½ Pounds	6½ Pounds
22x28 Inches.....	20 Pounds	24 Pounds	5 Pounds	6 Pounds
22x30 Inches.....	20 Pounds	24 Pounds	5 Pounds	6 Pounds
22x32 Inches.....	22 Pounds	26 Pounds	5½ Pounds	6½ Pounds
22x34 Inches.....	24 Pounds	28 Pounds	6 Pounds	7 Pounds
22x36 Inches.....	24 Pounds	28 Pounds	6 Pounds	7 Pounds
24x26 Inches.....	20 Pounds	24 Pounds	5 Pounds	6 Pounds
24x28 Inches.....	20 Pounds	24 Pounds	5 Pounds	6 Pounds
24x30 Inches.....	20 Pounds	24 Pounds	5 Pounds	6 Pounds
24x32 Inches.....	22 Pounds	26 Pounds	5½ Pounds	6½ Pounds
24x34 Inches.....	24 Pounds	28 Pounds	6 Pounds	7 Pounds

Continued on Page 560.

SIZE OF GLASS	WEIGHTS PER POUND TO WINDOW		WEIGHTS PER POUND TO WINDOW	
	Single Strength Glass	Double Strength Glass	Single Strength Glass	Double Strength Glass
24x36 Inches.....	24 Pounds	28 Pounds	6 Pounds	7 Pounds
26x28 Inches.....	22 Pounds	26 Pounds	5½ Pounds	6½ Pounds
26x30 Inches.....	22 Pounds	26 Pounds	5½ Pounds	6½ Pounds
26x32 Inches.....	24 Pounds	28 Pounds	6 Pounds	7 Pounds
26x34 Inches.....	26 Pounds	30 Pounds	6½ Pounds	7½ Pounds
26x36 Inches.....	26 Pounds	30 Pounds	6½ Pounds	7½ Pounds
26x38 Inches.....	28 Pounds	32 Pounds	7 Pounds	8 Pounds
26x40 Inches.....	28 Pounds	32 Pounds	7 Pounds	8 Pounds
28x28 Inches.....	24 Pounds	28 Pounds	6 Pounds	7 Pounds
28x30 Inches.....	24 Pounds	28 Pounds	6 Pounds	7 Pounds
28x32 Inches.....	26 Pounds	30 Pounds	6½ Pounds	7½ Pounds
28x34 Inches.....	28 Pounds	32 Pounds	7 Pounds	8 Pounds
28x36 Inches.....	28 Pounds	32 Pounds	7 Pounds	8 Pounds
28x38 Inches.....	30 Pounds	34 Pounds	7½ Pounds	8½ Pounds
28x40 Inches.....	32 Pounds	36 Pounds	8 Pounds	9 Pounds

NOTE.—In order to get an accurate weight of sash before hanging, have a scale to weigh each sash and mark the weight on edge of sash. The foregoing tables are only given as approximately.

SASH CORD

Used to hang sash of which there are various grades and makes with a difference in cost. The best cord for hanging windows is the cheapest; a poor grade of cord should never be used if you expect no trouble. The writer's experience is that the Silver Lake Sash Cord is the best used, which is made of hemp and another grade is made of white cotton, which runs in numbers 7, 8, 9 and 10.

It is sold in 100 feet hanks; 12 hanks in a bundle. There are cheaper makes of cord namely: The Eddystone cord, the Baltic and Bengal; all put up in 100 feet hanks; 12 hanks in a bundle.

SPIKES, NAILS AND TACKS

STANDARD STEEL WIRE NAILS				STEEL WIRE SPIKES		COMMON IRON NAILS		
Size	Length	Common		Length	No. per Pound	Size	Length	No. per Pound
		No. per Pound	Finishing No. per Pound					
2d	1 Inch	1060	1558	3 Inches	41	2d	1 Inch	800
3d	1 ¼ Inches	640	913	3 ½ Inches	30	3d	1 ¼ Inches	400
4d	1 ½ Inches	380	761	4 Inches	23	4d	1 ½ Inches	300
5d	1 ¾ Inches	275	500	4 ½ Inches	17	5d	1 ¾ Inches	200
6d	2 Inches	210	350	5 Inches	13	6d	2 Inches	150
7d	2 ¼ Inches	160	315	5 ½ Inches	11	7d	2 ¼ Inches	120
8d	2 ½ Inches	115	214	6 Inches	10	8d	2 ½ Inches	85

Continued on Page 562

SPIKES, NAILS AND TACKS

STANDARD STEEL WIRE NAILS				STEEL WIRE SPIKES		COMMON IRON NAILS		
Size	Length	Common No. per Pound	Finishing No. per Pound	Length	No. per Pound	Size	Length	No. per Pound
9d	2¾ Inches	93	195	6½ Inches	7½	9d	2¾ Inches	75
10d	3 Inches	77	137	7 Inches	7	10d	3 Inches	60
12d	3¼ Inches	60	127	8 Inches	5	12d	3¼ Inches	50
16d	3½ Inches	48	90	9 Inches	4½	16d	3½ Inches	40
20d	4 Inches	31	62	.....	.....	20d	4 Inches	20
30d	4½ Inches	22	.....	.....	.....	30d	4½ Inches	16
40d	5 Inches	17	.....	.....	.....	40d	5 Inches	14
50d	5½ Inches	13	.....	.....	.....	50d	5½ Inches	11
60d	6 Inches	11	.....	.....	.....	60d	6 Inches	8

TACKS

Title Oz.	Length Inches	No. Per Pound	Title Oz.	Length Inches	No. Per Pound	Title Oz.	Length Inches	No Per Pound
1	¾	16,000	4	¾	4,000	14	¾	1,143
1½	¾	10,666	6	¾	2,666	16	¾	1,000
2	¾	8,000	8	¾	2,000	18	¾	888
2½	¾	6,400	10	¾	1,600	20	1	800

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BRADS

6d

SLATER'S NAILS

	Length Inches	No. to Pound	Length Inches	No. to Pound	Length Inches	No. to Pound	Length Inches	No. to Pound
3d.	1½	288	4d	1¾	5d	1¾	6d	146

TABLE FOR ESTIMATING NAILS FOR VARIOUS KINDS OF WOOD WORK

- 1,000 Feet of Sheathing requires 20 pounds 8d nails.
- 1,000 Feet of Sheathing requires 25 pounds 10d nails.
- 1,000 Feet of Beveled Siding requires 20 pounds 6d nails.
- 1,000 Feet of Flooring requires 32 pounds 8d nails.
- 1,000 Feet of Flooring requires 35 pounds 10d nails.
- 1,000 Feet of Studding requires 13 pounds 10d nails.
- 1,000 Feet of Studding requires 10 pounds 20d nails.
- 1,000 Feet of Furring, 1x2, requires 9 pounds 10d nails.
- 1,000 Feet of ¾ Finish requires 30 pounds 8d nails.
- 1,000 Feet of 1½ Finish requires 38 pounds 10d F. nails.
- 1,000 Lath requires 6½ pounds 3d nails.
- 1,000 Shingles requires 3½ pounds 4d nails.

WEIGHT OF 100 BOLTS WITH SQUARE HEADS AND NUTS

DIAMETER OF BOLTS										
Length Under Head to Point	¼-Inch	⅜-Inch	½-Inch	¾-Inch	1-Inch	1 ⅛-Inch	1 ¼-Inch	1 ½-Inch	1 ¾-Inch	2-Inch
	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds	Pounds
1 ½ Inches....	4-0	7-0	10-5	15-2	22-5	39-5	63-0	.....	.....	.....
1 ¾ Inches....	4-4	7-5	11-3	16-3	23-8	41-6	66-0	.....	.....	.....
2 Inches....	4-8	8-0	12-0	17-4	25-2	43-8	69-0	109-0	163-0	.....
2 ¼ Inches....	5-2	8-5	12-8	18-5	26-5	45-8	72-0	113-3	169-0	.....
2 ½ Inches....	5-5	9-0	13-5	19-6	27-8	48-0	75-0	117-5	174-0	.....
2 ¾ Inches....	5-8	9-5	14-3	20-7	29-1	50-1	78-0	121-8	180-0	.....
3 Inches....	6-3	10-0	15-0	21-8	30-5	52-3	81-0	126-0	185-0	.....
3 ½ Inches....	7-0	11-0	16-5	24-0	33-1	56-5	87-0	134-3	196-0	.....
4 Inches....	7-8	12-0	18-0	26-2	35-8	60-8	93-1	142-5	207-0	.....
4 ½ Inches....	8-5	13-0	19-5	28-4	38-4	65-0	99-1	151-0	218-0	.....
5 Inches....	9-3	14-0	21-0	30-6	41-1	69-3	105-2	159-6	229-0	.....
5 ½ Inches....	10-0	15-0	22-5	32-8	43-7	73-5	111-3	168-0	240-0	.....
6 Inches....	10-8	16-0	24-0	35-0	46-4	77-8	117-3	176-6	251-0	.....

Continued on Page 566

DIAMETER OF BOLTS

Length Under Head to Point	$\frac{1}{4}$ -Inch		$\frac{3}{8}$ -Inch		$\frac{1}{2}$ -Inch		$\frac{5}{8}$ -Inch		$\frac{3}{4}$ -Inch		$\frac{7}{8}$ -Inch		1-Inch	
	Pounds		Pounds		Pounds		Pounds		Pounds		Pounds		Pounds	
6½ Inches....		25-5		37-2		49-0		82-0		123-4		185-0	262-0
7 Inches....		27-0		39-4		51-7		86-3		129-4		193-7	273-0
7½ Inches....		28-5		41-6		54-3		90-5		135-0		202-0	284-0
8 Inches....		30-0		43-8		59-6		94-8		141-5		210-7	295-0
9 Inches....		46-0		64-9		103-3		153-6		227-8	317-0
10 Inches....		48-2		70-2		111-8		165-7		224-8	339-0
11 Inches....		50-4		75-5		120-3		177-8		261-9	360-0
12 Inches....		52-6		80-8		128-8		189-9		278-9	382-0
13 Inches....		86-1		137-3		202-0		296-0	404-0
14 Inches....		91-4		145-8		214-1		313-0	426-0
15 Inches....		96-7		154-3		226-2		330-1	448-0
16 Inches....		102-0		162-8		238-3		347-1	470-0
17 Inches....		107-3		171-0		250-4		464-2	492-0
18 Inches....		112-6		179-5		262-6		381-2	514-0
19 Inches....		117-9		188-0		274-7		398-3	536-0
20 Inches....

FROM $\frac{1}{4}$ TO 12 INCHES DIAMETER

Diameter Inches	Weight in Pounds	Diameter Inches	Weight in Pounds	Diameter Inches	Weight in Pounds	Diameter Inches	Weight in Pounds
$\frac{1}{4}$	-165	$2\frac{1}{2}$	16-688	$4\frac{1}{4}$	59-900	8	169-856
$\frac{3}{8}$	-373	$2\frac{5}{8}$	18-293	$4\frac{1}{2}$	63-094	$8\frac{1}{4}$	180-696
$\frac{1}{2}$	-663	$2\frac{3}{4}$	20-076	5	66-752	$8\frac{1}{2}$	191-808
$\frac{5}{8}$	1-043	$2\frac{7}{8}$	21-944	$5\frac{1}{8}$	69-731	$8\frac{3}{4}$	203-260
$\frac{3}{4}$	1-493	3	23-888	$5\frac{1}{4}$	73-172	9	215-040
$\frac{7}{8}$	2-032	$3\frac{1}{8}$	25-926	$5\frac{3}{8}$	76-700	$9\frac{1}{4}$	227-152
1	2-654	$3\frac{1}{4}$	28-040	$5\frac{1}{2}$	80-304	$9\frac{1}{2}$	239-600
$1\frac{1}{8}$	3-360	$3\frac{3}{8}$	30-240	$5\frac{5}{8}$	84-001	$9\frac{3}{4}$	252-376
$1\frac{1}{4}$	4-172	$3\frac{1}{2}$	32-512	$5\frac{3}{4}$	87-776	10	266-288
$1\frac{3}{8}$	5-019	$3\frac{5}{8}$	34-886	$5\frac{7}{8}$	91-634	$10\frac{1}{4}$	278-924
$1\frac{1}{2}$	5-972	$3\frac{3}{4}$	37-332	6	95-552	$10\frac{1}{2}$	292-688
$1\frac{5}{8}$	7-010	$3\frac{7}{8}$	39-864	$6\frac{1}{4}$	103-704	$10\frac{3}{4}$	306-800
$1\frac{3}{4}$	8-128	4	42-464	$6\frac{1}{2}$	112-160	11	321-216
$1\frac{7}{8}$	9-333	$4\frac{1}{8}$	45-174	$6\frac{3}{4}$	120-960	$11\frac{1}{4}$	336-004
2	10-616	$4\frac{1}{4}$	47-952	7	130-048	$11\frac{1}{2}$	351-104
$2\frac{1}{8}$	11-988	$4\frac{3}{8}$	50-815	$7\frac{1}{4}$	139-544	$11\frac{3}{4}$	366-536
$2\frac{1}{4}$	13-440	$4\frac{1}{2}$	53-760	$7\frac{1}{2}$	149-328	12	382-208
$2\frac{3}{8}$	14-975	$4\frac{5}{8}$	56-788	$7\frac{3}{4}$	159-456		

INDEX.

A

Pa

Article of Agreement.....	476-47
Aliquot Parts of One Dollar.....	
Apothecaries Weights.....	
Approximate Cost of Lime Stone, F. O. B. Quarries	239-24
Approximate Sizes of Brick.....	24
Avoirdupois Weights.....	

B

Balustrades, Piazzas, Balconies or Roofs.....	479-48
Base Board, Top and Bottom Mould.....	478-47
Batton Doors.....	480-48
Base or Jamb Blocks.....	48
Blinds or Shutters.....	51
Board Partitions.....	484-48
Books, Terms, Folio, Quarto, Octavo, Etc.....	
Bolt-Weights Etc.....	565-56
Bridging Joist.....	483-48
Breaking Rock by Hand, (Macadam).....	10

BRICK WORK:

Rules for Estimating.....	247-24
Approximate Sizes.....	24
Cleaning Walls.....	26
Cost Kiln or Wall Measure.....	344-34
Difference between Kiln or Wall Measure.....	351-35
Enameled, Definition or Special Terms.....	25
Face Average Days Work.....	265-26
Face Labor Cost per 1000.....	297-30
Guaging or Sizing.....	274-27
Guaging Labor Cost per 1000.....	27
Furring Hollow.....	269-27
Headers Explanation.....	270-27
Hydraulic Cement Cost to Lay 1000.....	343-34
Hauling Cost per 1000 1-4 to 5 Miles.....	355-36
Hauling Cement $\frac{1}{2}$ to 3 Miles.....	138-14
Laying in Lime Mortar.....	260-24

INDEX—Con.	Page
Laying in Cement Mortar.....	263-265
Layed in Hot Weather.....	272-273
Labor Cost to Lay 1000 B. Lime Mortar.....	278-287
Labor Cost to Lay 1000 B. Cement.....	288-296
Labor Cost Piers, Etc.....	294-296
Lime Cost to Lay 1000.....	340-341
Mortar Maring.....	258-259
Mortar Coloring, general information.....	272
Mortar Making Labor Cost.....	277-278
Number of Sup. Foot.....	346-348
Purchasing Advantage.....	256-257
Protecting Walls from Damage.....	269
Protecting Walls after Working hours.....	275
Portland Cement, Cost to Lay 1000 B.....	342-343
Paving, How to Estimate.....	369-371
Paving, Sand Cost at various Thicknesses.....	371-375
Paving Brick Cost Flat or Edge.....	376-379
Paving, Cement Cost per Sq. Yard, (Grout)....	380-381
Paving, Sand Cost for, (Grout).....	381
Paving, Labor Cost mixing (Grout) Etc.....	382
Paving, Labor Cost Laying.....	382-387
Paving, Number required per Sq. yard.....	387
Receiving, Face or Common.....	273-274
Superintendent, Foreman, Etc.....	304-335
Sand Cost to Lay 1000 B.....	341
Sand Hauling $\frac{1}{2}$ to 3 Miles.....	126-137
Tools, Wheelbarrows, Etc.....	274
Tables Hoisting Brick and Mortar.....	335-340
Tables Showing number of Brick in Walls.....	349-351
Workers Memoranda.....	389-398

C

Conversion Tables of Measures, Weights, Etc.....	9
Cubic Measure.....	6
Carpenter Work.....	474-566
Capping Walls with Plank.....	485-486

INDEX—Con.	Page
Carpet Sills or Thresholds.....	48
Ceilings, Steel or Metal , Ornamental.....	47
Ceilings, Wood, Tand, G.....	487-48
Centers for Arches, Etc. cut to radius.....	489-49
Centers for Reinforced Concrte, Floors, Etc.....	49
Center Sheathing $\frac{1}{8}$ Boards.....	49
CEMENT WORK:	
Cost to make Concrte.....	100-10
Cost to Lay Top Coat, Walks, Floors, Etc.....	158-16
Cost to Lay Perch or Cord Stone.....	20
Cost to Plaster rough Walls.....	22
Coloring, Materials and Quantities.....	157-15
Concrete workers Memoranda.....	150-15
Mortar to Lay Brick.....	263-26
Cost to Lay 1000 Brick.....	342-34
Walks, Floors, Driveways, Etc.....	155-18
Walks, Floors, Etc., how to make.....	156-15
Schedule on Cement Work.....	181-18
Sand Cost to Lay Top Coat.....	163-16
Sand, Gravel Filling.....	174-17
Labor Cost Laying.....	178-18
Tables showing amount Concrete.....	16
Rules to Estimate.....	155-15
Cleaning Brickwork.....	26
Cloak Rails and Hooks.....	491-49
CONCRETE WORK	
Concrete Work.....	83-15
Cost at various Thicknesses, Floors, Etc.....	167-17
Cement Cost when Mixed.....	100-10
Freezing Weather.....	8
Labor Cost, mixing by hand.....	89- 9
Made by hand, number of Crew.....	87- 8
Mixing by hand.....	84- 9
Mixing with Machine.....	95-10
Labor Cost, Machine Mix.....	98-11

INDEX—Con,	Page
Reinforced.....	147-149
Rock Cost.....	106
Rock breaking, Labor Cost.....	106
Runs, Scaffolding, Etc.....	85- 86
Sand Cost.....	103-105
Shoveling Crushed Rock.....	106-107
Number of Men per Crew, (Machine).....	96- 98
Definition.....	83
Superintendent, Foreman, Etc.....	143-146
Reinforced Woodwork.....	490-491
Hauling Cruched Rock $\frac{1}{4}$ to 3 Miles.....	107-126
Hauling Sand, Etc. $\frac{1}{4}$ to 3 Miles.....	126-137
Hauling Cement $\frac{1}{2}$ to 3 Miles.....	138-142
Camparison Tables on Earth Work.....	54
Cost of Earth Hauling $\frac{1}{2}$ to 5 Miles.....	16- 26
Cistern Tables of Quantities.....	55
Contract for Material and Labor.....	476-478
Cornices, Brick, Face or Pressed.....	268
Coloring, Brick Mortar.....	272
Colors, Mixed Paints.....	427-428
Composition Roofs, Gravel, Felt, Pitch.....	450-455
Columns, Porches, Etc., Wood.....	492
Cornices, Wood.....	493-499

D

DOORS

Frame Setting, Frame Buildings.....	499
Frame Setting, Brick Buildings.....	500
And Window Casings.....	501
And Window Jambs.....	502
Fitting and Hanging.....	503-504
Locks, Plated Fronts.....	504
Sliding.....	504
Flush Bolts.....	505
Definition of various kinds of Stonework.....	184-185
Dry Measure.....	6

INDEX—Con.

	Page	
Drawing Paper.....	8-	
E		
Estimators Memoranda.....	4-	
EARTHWORK:		
Estimating.....	10- 11	F
Measuring, Example, Etc.....	11	F
Increase in bulk when excavated.....	11	F
Weight, Cubic foot or Yard.....	12	F
Shoveling or Loading, Yards per day.....	11- 12	F
Plowing for Shovelers.....	14	F
Loading Sandy Soil, Loam, Clay, Etc.....	14- 16	
Hauling $\frac{1}{2}$ to 5 Miles, Cost.....	16- 26	
Snatch Teams.....	27- 30	
Leveling at Dump or Fill.....	30	F
Hauling $\frac{1}{2}$ to 5 Miles, number of loads.....	51- 53	F
Comparison Tables.....	54	F
ESTIMATING:		
Buildings.....	3- 4	C
Earthwork.....	10- 12	C
Concrete.....	83- 84	C
Cement Work.....	155-157	C
Rubble Stonework.....	182-184	C
Brickwork.....	247-256	C
Brick Paving.....	369-371	
Plastering.....	398-417	F
Painting.....	423-429	
Tin and Slate Roofs.....	438-445	
Gravel of Composition Roofs.....	450-452	
Tin Work.....	455-471	
Floors, Ceiling, Shiplap, Etc.....	529	
Nails for Woodwork.....	529-530	
From Plans.....	474-475	
EXCAVATING:		
Cisterns, Etc.....	55	
By Drag and Wheel Scrapers.....	57- 78	

INDEX—Con.

Page

Wheel Barrows.....	79- 83
Ground.....	12
ntendent, Foreman, Etc.....	31- 50

F

Boards.....	506-507
ost.....	507
nd Hanging Doors.....	503-504
ash.....	522-523
Sub or under Common Boards.....	508

ING:

7 Pine.....	508-511
.....	511-512
nd similar wood.....	512
Hollow Brick.....	269-270
Hollow Tile.....	269-270
and Placing Heavy Timbers.....	515-518

G

Brick to Sizes.....	274-275
Brick, Labor Cost.....	276
nd Glazing.....	434-437
Roofs, general information.....	450-455
s, Plugs driven in Walls.....	482-483
Chain, Surveys Long Measure.....	5

H

NG:

, $\frac{1}{4}$ to 5 Miles.....	355-369
nt $\frac{1}{2}$ to 3 Miles.....	138-142
ed Rock, $\frac{1}{4}$ to 3 Miles.....	107-126
t $\frac{1}{2}$ to 5 Miles.....	16- 30
$\frac{1}{2}$ to 3 Miles.....	126
s of Brick, various terms.....	270-271
ost of Plastering.....	422

I

on of Building Site.....	
--------------------------	--

J**JOIST:**

Cambered and Leveled on Walls.....	513-514
Rafter, Etc.....	514

LATHING:

Lathing, Labor Cost Sq. Yard or 1000.....	418-419
Lath, Cost per Sq. Yard or 1000.....	419
Lath, Nail Cost.....	420
Land Measure.....	5

LIME:

Cost for Plastering.....	420-421
Cost for Brick Work.....	340-341
Cost for Stonework.....	240
Slacking for Mortar.....	259

LOADING:

Or Shoveling Earth, number of yards per day ...	11- 12
Earth, Labor Cost.....	14- 16
Rock, Crushed, from Cars, Etc.....	106-107
Locks, Mortised, Plated Fronts.....	504

M

Macadam or Crushed Rock.....	106
Masonry in freezing weather.....	257
Measure of Lenth.....	5
Measures of Extension.....	7

MEMORANDA:

On Earthwork.....	12- 13
On Concrete or Cement Work.....	150-155
On Stonework.....	242-247
On Brickwork.....	389-398
Mixing Concrete by Hand.....	84- 85
Mixing Concrete by Machine.....	95-100
Millwork, How to order.....	151-154

N**NAILS:**

For Slate Work.....	442-443
---------------------	---------

INDEX—Con.	Page
For Woodwork.....	529-530

P

Plans, Details, Etc., how to measure.....	474
Packing and Shipping Cement.....	142
Paving, Brick Walks, Floors, Etc.....	369-389
Paingint and Glazing.....	423-437

PAINTING WORK:

Rules for Estimating.....	423-425
Colors, mixed.....	429
Bill of Materials.....	429
Labor Cost per Sq. yard.....	430-431
Cost, Approximately.....	432-434
Glass and Glazing.....	434-437
Partition Boards.....	484-485
Plowing Earth for Shovelers.....	14
Plowing Earth for Wheel and Drag Scrapers.....	64- 65

PLASTERING WORK:

Exterior Foundation, (Damp proofing).....	225-229
Cement Cost, (Damp proofing).....	228
Sand Cost, (Damp proofing).....	228
Labor Cost, (Damp proofing).....	225-227
Rules for Estimating, Etc.....	398-423
Sand Cost.....	421-422
Hair Cost.....	422
Plaster of Paris, Cost.....	423
Lime Cost.....	420-421
Plugging Walls for Grounds.....	482-483
Pointing and Cleaning Stone Walls.....	235-237
Post Wood set in place.....	507
Protecting Brick Work.....	269
Purchasing Brick, Sizes, Etc.....	256-257
Purchasing Stone.....	185-186

Q

Quarrying Stone in freezing weather.....	191
--	-----

R

Receiving Brick, Face or Common.....	273-274
--------------------------------------	---------

RULES:

For Estimating Earthwork.....	10- 11
For Estimating Concrete.....	83- 89
For Estimating Stone Work.....	182-184
For Estimating Brick Work.....	247-254
For Estimating Tin Work.....	456-470
For Measuring Roofs, Slate, Etc.....	438
For Measuring Earthwork.....	11

RUBBLE STONE WORK:

Labor Cost, Perch or Cord.....	195-204
Cement Cost to lay Perch or Cord.....	205
Lime Cost to lay Perch or Cord.....	204
Sand Cost to lay Perch or Cord.....	204
Plastering below grade, (Damp proof).....	225-229
Cement Cost to Plaster, (Damp proof).....	228
Sand Cost to Plaster, (Damp proof).....	228
Superintendent, Foreman, Etc.....	206-225
Rock Hauling $\frac{1}{4}$ to 3 Miles.....	107-126
Rock or Stone in the rough.....	194
Rock, weight per Cubic Foot.....	191-194

ROOFING WORK:

Gravel of Composition.....	450-455
Gravel or Composition, labor Cost.....	452
Gravel or Composition, Felt cost.....	452
Gravel or Composition, Gravel Cost.....	452-454
Gravel or Composition, Tar, and Pitch cost.....	453
Gravel Bill of Materials.....	454-455
Gravel, the kind, Etc.....	451

ROOFING TIN:

No of Sheets per Square.....	455-462
Labor Cost.....	471-473
Cost per Box and Square.....	471-472
Cost, Solder per Square.....	472-473

ROOF SHEATHING:

Open for Shinlessg.....	519
8 inch Shiplap, Flat Roofs.....	519
8 inch Shiplap, Hip Roofs.....	519-520
Roof Shingling.....	520-522
Roof Pitch or Elevation.....	528-529

S

SAND:

Or Gravel for Concrete.....	86- 87
Cost to make Concrete.....	103-105
Hauling $\frac{1}{2}$ to 3 Miles.....	126
Hauling Cost per Cubic Yard.....	127-137
Cost Top Coat Cement Work.....	163-166
Cost to lay Rubble Stone.....	204
Cost to Plaster Walls , exterior.....	228
Cost to lay 1000 Brick.....	341
Cost for Plastering.....	421-422
Schedule on Cement Work.....	181-182

SETTING STONE:

With Derricks.....	229-330
With Derricks, labor cost.....	231-235
Window Frames wood buildings.....	505
Window Frames Brick buildings.....	505-506
Door Frames, frame buildings.....	499
Door Frames brick buildings.....	500
Sash Cords, kinds Etc.....	561

SASH WEIGHTS:

Size of Glass, number of Weights, Etc.....	556
Weights, Diameter, Length, Weights, Etc.....	557
Weights, Lead, Size, Weight per foot, Size.....	558
Weights, Size single and double strength.....	559-560
Fitting for Windows.....	522-523

SHEATHING ROOFS:

(Open) for Shingling.....	519
8 inch Shiplap, Flat Roofs.....	519

INDEX—Con.

8 inch Shiplap, Hip Roofs	519
Sheathing Sides of Buildings, Common Boards	
Sheathing Sides of Buildings, 8 inch Shiplap	
Shingling Roofs	52
Shoveling Chushed Stone	10
Skylights and Floor Glass, weights	
Stone Weights per cubic yard	19
STONE:	
Sand or Gravel for Concrete	8
Purchasing and general information	18
Tables showing quantities of Stone	18
In the rough	
Sawed at Quarries	19
Quarrying in freezing weather	
Rubblework, labor cost	19
Setting by hand, Sills, Etc	23
Prices, F. O. B. Quarries	23
STONework:	
Footings Walls, Etc	
Estimating	18
Builders Definition	18
Pointing and cleaning	23
Stud Partitions	
Studding out side buildings	
Stoneworkers Memoranda, general information	24
Stone work, Superintendent, Foreman, etc	20
Superintendent, Foreman, etc., (Earthwork)	3
Superintendent, Foreman, etc., (Concrete work) . . .	14
Superintendent, Foreman, etc., (Brickwork)	30
SIDING:	
With 6 inch Beveled Boards with paper	
With 6 inch Beveled Baords with no Paper	52
With 6 inch Cove Boards, no paper	
With 6 inch Cove Baords with paper	
With 12 inch Barn Boards	

INDEX---Con.	Page
With 12 inch Barn Boards, Battoned.....	525-526
Sills and Aprons, wood finish.....	502
SLATE WORK:	
SLATE ROOFING:	
Rules Estimating.....	438
Weights per Superficial Foot.....	439-441
Sizes and various names.....	441-442
Names, Colors, etc.....	443-444
Ordering.....	445
Labor, Cost, Laying.....	445-450
Holing.....	447-448
Cost F. O. B. Quarries.....	449
SLATERS:	
Nails, Sizes, number per pound.....	442-443
Felt, Labor, Cost to lay.....	448
Felt, Cost per square.....	449
Snatch Teams to Wagons.....	27- 30
Spikes, Nails and Tacks, Sizes, etc.....	561-562
Snatch Teams to Scrapers.....	75- 78
Steel Ceilings, Labor, Cost.....	474
T	
To make an Estimate.....	3
TABLES::	
On Earth Hauling $\frac{1}{4}$ to 5 Miles.....	51- 53
On Cistern work.....	55
On Concrete work.....	166
On Stone work.....	187-190
Weight of various Building Rock.....	191-194
Showing amount of Brick in Walls.....	349-351
Tin Roofs, etc.....	456-470
Lumber measure.....	331-351
Nails required for Wood work.....	564
Tile Furring.....	269-270
4. WORK:	
.....	455-474

INDEX---Con.

Pa

Roofing, Labor, Cost.....	471-4
Or Metal Ceilings, Labor, Cost.....	4
Or Metal Ceilings Material Cost.....	4
Down Spouts, etc.....	462-4
Tools, Scaffolding, etc.....	2
Timbers set in position.....	515-1

U

United States Weights and Measures.....	5-
---	----

WOODWORK:

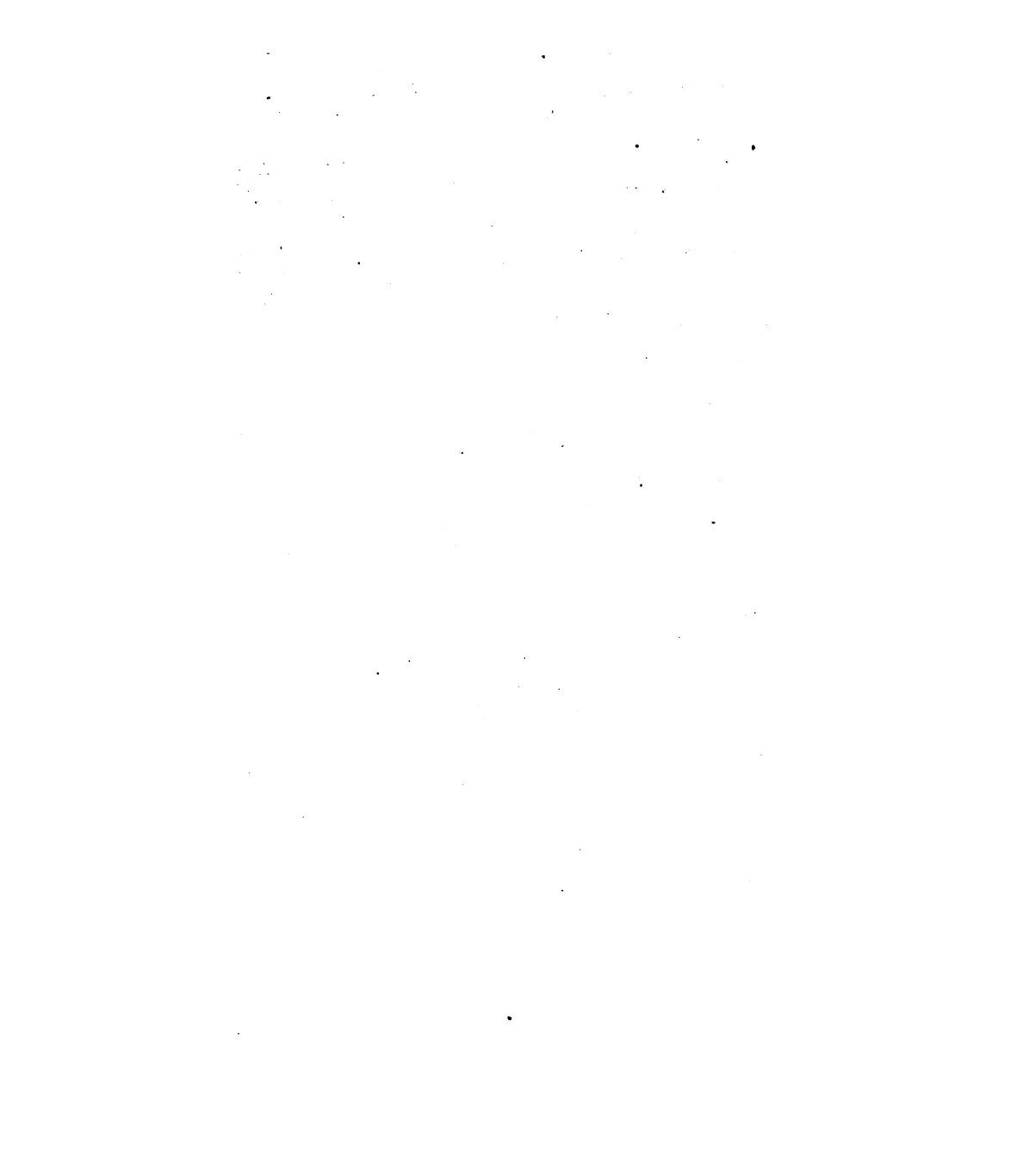
All Kinds.....	474-5
Base-Board, quarter round at floor.....	4
Base-Board top and bottom Mouldings.....	4
Balustrades.....	479-1
Batten Doors.....	481-1
Base or Jamb Block.....	4
Bracketing or Lockouts.....	4
Bridging.....	483-1
Board Partition.....	484-1
Capping Walls.....	485-1
Carpet Sills or Thresholds.....	4
Ceilings.....	487-1
Centers for Arches.....	489-1
Center Covering with 1 inch Lumber.....	4
Centers for Re-inforced Concrete.....	490-1
Clothes or Cloak Rails.....	491-1
Columns for Porches.....	4
Comices.....	493-1
Door Frame Setting.....	499-1
Door and Window Casings.....	501-1
Door Fitting and Hanging.....	1
Door Locks.....	1
Doors Sliding.....	1
Door, Flush, Bolts, etc.....	1
Window Frame setting.....	505-1
Fencing, 1 inch boards.....	506-1

INDEX---Con.	Page
Fence Post.....	507
Flooring of various sizes.....	508-512
Joist Cambered and level on walls.....	513-514
Stud Partitions.....	515
Framing and Placing Heavy Timbers.....	515-518
Sheathing roofs.....	519-520
Shingling Roofs.....	520-522
Sash Fitting.....	522-524
Siding.....	524-526
Sheathing side of buildings.....	526
Studding for outside Frame buildings.....	527
Wainscoting.....	527-528
Roof Pitch or Elevation.....	528
Rules for Estimating Flooring, etc.....	529
Estimating Nails for work.....	529-530
Weights of various Lumber.....	530-531
Weights of Rolled Iron.....	567
Weights of Bolts.....	565-566
Walks, Driveways, etc., Cement.....	158-163









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